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THE

MEDICAL TEMPERANCE JOURNAL.

October, 1882.

Original Contributions.

THE BRITISH MEDICAL ASSOCIATION JUBILEE.

A JUBILEE is always a season of rejoicing, and the recent jubilee of the British Medical Association, at Worcester, has been no exception to the rule. There was much to rejoice at, and to be thankful for. From its humble foundation by Sir Charles Hastings, in Worcester, on the 9th of August, 1832, the Association has developed into the most extensive and influential medical society in the world. With a membership of some 10,000 medical men, and a weekly journal with a circulation of 11,000, the influence of so great a body of educated thinking medical men must powerfully tell on the community at large. It was, then, with no ordinary feeling of satisfaction that temperance reformers read the official announcement of a special discussion on “The Public Medicine Aspects of the Alcohol Question,” at the Jubilee meeting. The opening of the discussion, which was held on the Jubilee day of the Association, was entrusted to Dr. Norman Kerr.

The aspects introduced by Dr. Kerr were—the influence of alcohol in the causation of sickness and death; workhouse stimulants; legislation for habitual drunkards; and the increased consumption of non-alcoholic beverages. The first afforded an opportunity for the exhibition of a number of diagrams, showing the superior healthfulness of total abstinence over moderate drinking; and the superior longevity of total abstainers as compared with moderate drinkers. This issue was accepted in the discussion, and the conclusion of the opener, in favour of total abstinence, was disputed by none of the speakers. There was, practically, complete unanimity, inasmuch as the only discordant note by one speaker had reference to a question altogether ou-
side of the discussion. Dr. Kerr’s argument in support of total abstinence on purely health grounds was endorsed by the President of the Public Medicine section, in which the discussion took place, Dr. Alfred Carpenter; and also by Dr. Carter, Dr. Drysdale, Dr. Scatliff, Dr. Houldsworth, Dr. Joseph Smith, Dr. J. J. Ritchie, and others. Though the proceedings were protracted half-an-hour beyond the appointed hour for closing, there was no opportunity for several other members to testify in favour of abstinence, as they had intended doing. The immediate outcome of the proceedings was the reception of several memorial from temperance associations, and a successful request for the publication of their text in the Journal. The facts and figures adduced in the opening of the discussion have been given in the leading medical papers, and thus the case for total abstinence as against moderation has, for the first time, been brought before the medical profession from a purely professional point of view, free from all external influences. The effect has already been very marked.

Once more Dr. Kerr’s estimate of the mortality from intemperance has been brought before the Association. There was no attempt at the Cambridge meeting to question the moderation of his computation of 40,500 annually dying from their own intemperance, and 79,500 annually dying indirectly from the intemperance of others. Neither was there at Worcester. The results of the inquiry by Dr. Thomas Morton, and of the two investigations by the Harveian Society of London, point to an even greater direct mortality from personal excess in alcohol. Surely these terrible figures, now that they have passed the ordeal of open discussion by the profession, will arrest the attention of the Christian public and the legislature, and arouse the national conscience to the absolute necessity of coping with our national vice.

The new facts on the remarkable reduction in the amount of stimulants prescribed in several metropolitan workhouses, notably the extraordinary reduction in St. Marylebone, which workhouse was recently pilloried in the Times for its extravagant alcoholic expenditure, will swell the volume of the advancing tide which threatens to revolutionise the old parochial régime. St. Marylebone has one of the largest workhouses in the kingdom, and if intoxicating drink has been, with great advantage to every one, done without for three-quarters of a year, these liquids ought to be needed by no healthy pauper anywhere.

We have bestowed most of our consideration on this discussion, from its value as the first official recognition by a national medical organisation of the pre-eminent importance of the total abstinence movement as an agent in the promotion of the public health; but Temperance was conspicuous throughout the entire session.
The issue of tickets for the annual dinner exclusive of a charge for wine has now become a regular practice, which was frankly and fully recognised by the president, Dr. Strange, in his sympathetic address at the breakfast. The report of the Habitual Drunkards Committee was adopted, and the propriety of detaining habitual pauper drunkards when they sought admission to the workhouse strongly insisted on at a general meeting of the Association.

The addresses at the Temperance Breakfast given by the League to over 200 of the members were characterised by a hearty appreciation of the labours of the venerable and philanthropic Samuel Bowly and of the work of the National Temperance League, which augured well for the prospective growth of temperance principles among the members during the next fifty years. The speeches of Mr. Bowly, the Hon. and Rev. Canon Leigh, and Mr. John Taylor, on behalf of the League, met with an appropriate and fitting response from the president, Dr. Strange, Dr. Alfred Carpenter, Dr. Lennox Browne, and other medical men, on the part of the Association. Dr. Browne's statement of the high value of total abstinence to vocalists entertained by Mr. Sims Reeves was of great importance. The largely-attended and highly-enthusiastic public meeting, addressed by Dr. Robert Martin; Dr. Drysdale; Mr. Vacher, of Birkenhead; Dr. Ritchie, of Leek; Dr. Scatliff, and others, could not but have a powerful influence on the future of total abstinence in the ancient and faithful city of Worcester. None of the League's efforts has had a greater measure of success than has its institution of the temperance breakfasts at the annual meeting of the Association. Their conception was a happy thought which has borne good fruit.

Dr. Wade, in his thoughtful address on Medicine, while approving the administration of alcohol in suitable cases, dealt a crushing blow at the Toddean hypothesis that alcohol is a specific in the treatment of pneumonia (inflammation of the lungs). He showed the utter fallacy of such a claim, and his cautious and discriminating approval of stimulants in certain forms of the disease no intelligent physician can cavil at.

Dr. W. S. Playfair demonstrated the great value of milk as a replenisher of force. In certain cases of neurasthenia (nerve exhaustion) excessive waste was produced by electricity and massage (muscular rubbing). Milk, at frequent intervals, was for some days the staple diet. Under this milk régime the patient put on fat and increased in weight. Temperance reformers would do well to bear in mind the nutritive and restorative properties of good milk.

Dr. Myrtle described a case of acute ascending paralysis arising
from chronic alcoholism. In the early stage, when the patient
followed for a time the doctor's advice, the disease was arrested;
but after a return to stimulants it broke out afresh. In the dis-
cussion which followed there was a general agreement that
delirium tremens is uncommon among women, and that no case
of acute ascending paralysis has yet been found to occur among
men.

In a word, Temperance, in many phases, occupied a considera-
ble space in the proceedings at the Worcester Jubilee meeting, and
there are significant indications that the medical profession is day
by day becoming more favourably disposed to the great cause,
the progress of which is pregnant with good to the physical,
material, and moral welfare of the British people.

THE SCIENTIFIC POSITION OF THE ALCOHOL
QUESTION.*

By Francis Vacher, F.R.C.S., F.C.S., Birkenhead.

There are two reasons, as it appears to me, why medical men
have taken a prominent part in advancing the temperance and
total abstinence movements. They have almost necessarily
some acquaintance with the results of recent researches on
alcohol, and its claims to a position as a food, &c., and they
are unfortunately almost daily face to face with the effects of
intemperance.

It falls to the members of my profession to see a little more
beneath the surface than others do. Could I raise the veil but
for a minute, and give you a glimpse of what I have seen and
known in English homes, your hearts would be touched. I have
known a young man, a college graduate, amiable, talented and
industrious, whose mother might well have looked forward to
his assured success in life—I have known such an one stoop to
any meanness to gratify his mad craving for drink, and who,
sick unto death, looked back wearily through the blotted leaves
of his ill-spent life, and could only echo the hopeless words of the
poet—

"Leaves—pallid, and sombre, and ruddy,
Dead leaves of the fugitive years;
Some stained as with wine, and some bloody,
And some as with tears."

* From a speech at a public meeting at Worcester, August, 1882.
I have known a man who, evening by evening as he wended his way homeward, the day’s toil done, used to repeat quietly over and over again—“God help me to bear it!” And what was it he prayed so earnestly to be enabled to bear? It was his home. Another man, who had an intemperate wife—I knew him well, too—struggled on bravely for upwards of twelve years, but at last his mind gave way under the constant strain, and he fell a victim to his own hand. I have seen a wife and mother, in good social position, an object of shameful pity in one of her own reception rooms. She had a little daughter, just rising into womanhood. Picture to yourselves that poor maiden’s quivering lips and wan face and burning brow, as she realised that the terrible home-secret was now known to one more. Saddest of all—I have known a poor wife, who one night went to bed heavy with drink, her fair-haired child by her side. Soon after sunrise the little fellow awoke, and made his way into another room. He could just talk, and said, “Can’t wake mammy,” and so brought in help; but the help was too late, the child’s mother had been dead some hours.

I cannot recall these scenes, and such as these, without emotion, and if I am earnest in asking you for the support of your example in furthering the practice of total abstinence, it is because I realise what a power that example is capable of exerting, and that in abstinence alone is there any safety to thousands of your brothers and sisters.

As to the scientific position of the alcohol question, I believe I am warranted in saying (but I speak merely for myself, not committing anyone on this platform to my deductions), that modern inquiry has shown—

1. That alcohol is not a food.
2. That it is not a useful adjunct to the food of persons in health.
3. That it is only exceptionally useful as a medicine, and that even as a medicine its place can be taken by other medicine as efficient or more efficient.
4. That it is specially harmful to children.
5. That its use may in all cases be discontinued abruptly without risk.

Now on all these five points we have received light since I commenced the study of medicine, about twenty years ago.

1. The great authorities in medicine—Stokes, Todd, Graves, and others—were all agreed that alcohol was a food. Anstie followed, the last of this school, just as the new facts and doctrines were coming to the fore. In particular the use of alcoholic
liquors was enjoined in the treatment of wasting diseases (as phthisis), in the treatment of inflammatory diseases (as erysipelas), but most of all in the treatment of fevers. At present, I think, most physicians would regard such liquors as specially contra-indicated in inflammatory diseases, and if prescribed in wasting diseases, it would be not as nourishment, but as a sort of condiment. The physician says to the patient, "If a glass of wine or ale will enable you to take a mutton-chop for dinner, which you tell me you cannot take otherwise, you may have it." Whereas, in fevers, milk and essence of beef, &c., almost entirely replace wine and brandy, and if these latter are given it is not as a food, but to combat some specific symptoms—not in heroic quantities, but in spoonfuls. Even typhus fever (bad typhus as it occurs among the very poor, the ill-fed and the intemperate) may be treated entirely without alcohol. I speak of that which I know, as physician to a fever hospital. A few days since when I left home, I had no less than fifteen cases of typhus under my care, all being treated without alcohol. But it may be said—granting the inutility of alcohol as food—"Surely wine and beer are good foods, independent of the alcohol they contain." To this I answer, unfermented wine contains all the food properties of the best wine and more, while all the food constituents of the best stout can now be obtained in concentrated form in malt extract. The food constituents in ordinary beer are not abundant. Some of you may have heard that it has been computed that £36 worth of beer would contain as much nourishment as a five-pound loaf.

2. Negative evidence in support of my second proposition, that alcohol is not a useful adjunct to the food of persons in health, may be found in the fact that there are 5,000,000 total abstainers in this country, whose health is, I think it will be allowed, fairly good. Then actuaries tell us the death-rate is lower among total abstainers than moderate drinkers, and a total abstainer desiring to insuring his life may now get distinctly better terms than a moderate drinker. The proposition is true not only as regards healthy persons, under ordinary circumstances, but extraordinary circumstances.

There is Dr. Parkes' testimony that soldiers make long marches with less fatigue without the spirit rations. Sir Garnet Wolseley's experience is similar, viz., that tea is a better stay than spirits for troops subjected to extraordinary physical exertion. I need not add that the evidence of great swimmers, athletes, mountain-climbers, rowers, &c., is all to the same effect.

3. I base my third proposition on the fact that there is scarcely any property ascribed to alcohol which is not possessed in an
equal or higher degree by some other drug. It is difficult to
erenter upon the proof of this before a lay audience. However you
will understand me if I say that the stimulant action of wine or
spirits may be produced by ammonia, ether, beef extract, &c.;
that the same action of wine or beer is much more than surpassed
by cinchona bark and quinine; that the stomachic action of some
of these liquors is at least equalled by preparations of rhubarb
and ginger, or decoction of hop. I may add that the supposed
power of alcohol to enable a person to rally after a sudden shock,
or severe hæmorrhage, is distrusted now, and reliance placed in
warm milk. In 1877 it fell to my lot to have charge of 120 cases
of small-pox. They were all hospital cases, many of them of the
most malignant type—a fifth of the number being unvaccinated.
They were treated throughout either without stimulants, or with
a stimulant other than alcohol, and my deaths were 14 (11:6 per
cent.). In a neighbouring hospital where alcoholic liquors were
not withheld, and where 122 cases, drawn from the same district,
were treated, the deaths were 27 (22:1 per cent.)

4. Proposition No. 4 appears so self-evident that you will
perhaps think any attempt to sustain it superfluous—yet even
now little children scarcely out of the nursery are sometimes
ordered their half-pint of bitter beer at lunch, or their glass of wine
at dinner, and a taste for such things is deliberately cultivated.
The fact that alcohol is not a food (does not build up the tissues,
promote growth, or supply the body with fuel for warmth), shows
that it is not needed. That it does the exact opposite of these
three things shows that it is specially harmful to children—yet it
is the simple truth—that alcohol retards growth, prevents the
building up of some tissues, and distinctly lowers the tempera-
ture, postponing the elimination of effete matters.

5. My final proposition, that alcohol may in all cases be discon-
tinued abruptly without risk, is one of considerable importance to
the public no less than the profession. I think, as I have stated
it, it is true in substance and fact. In this country there is a
prison population of about 20,000, a large proportion of whom
are, it may be assumed, habitually intemperate. They are
suddenly removed from this intemperate life for long or short
terms of imprisonment, the alcoholic liquor is suddenly cut off,
an amount of labour far in excess of what they are used to is
suddenly demanded of them, and yet the mortality among
prisoners is less than in any other class or body of men or
women, and deprivation of alcohol is officially noted as one of
the causes of this low death-rate. Again, in dealing with the
subjects of that dreadful malady delirium tremens, it used to be
the practice to wean a patient from his drink by slow degrees,
now he is cut off from it when the treatment begins, and with better results. Indeed I believe that any habitual drinker, temperate or intemperate, may suddenly become an abstainer, not only without prejudice to his health, but with the happiest results. Those who have tried it, lay or professional, all tell us this is their experience.

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ALCOHOL IN THE WORKHOUSE.

There appears to be a growing public interest in the question of alcohol in workhouses. Three months ago we published a letter from a Guardian which appeared in the Times, and we find that the British Medical Journal (August 5) has in its editorial department called attention to the perplexing diversity of practice which prevails amongst poor-law medical officers with regard to the medicinal prescription of alcoholic drinks. In many unions the amount of alcohol prescribed is extravagantly high, while in others—if there is any virtue in the drug—the amount is ridiculously small; and the British Medical Journal asks—“What lessons are contradictory returns such as these capable of teaching?” To which the writer replies:—

“One which is often drawn is, that many poor-law medical officers, and other practitioners, do not prescribe alcohol with that precision which they aim at in the prescription of other powerful medicinal remedies. But, on the other hand, is it not the case that materials do not at present exist on which a definite opinion can yet be formed as to the influence of the careful prescription of alcohol to the sick? One medical officer (Mr. Anderson, of Walton) did, indeed, report that, on trying to do almost entirely without alcohol, he found the mortality of his patients greatly increased, and the period of their convalescence prolonged. But, recently, after an investigation on the spot, the Local Government Board reported that the data were, in their opinion, too incomplete to warrant any opinion whatever. On the other hand, several experienced medical officers have given the non-alcoholic system an extended trial, and have expressed their satisfaction with the result. At Wrexham, St. George’s (Hanover Square), Chester, Helston, Barnsley, Longford, Falmouth, and other places, where little or no alcohol has been ordered, there has been observed, it is alleged, among the inmates greater rather than less physical energy, and a more vigorous appetite for food. Though the definition of the true place of alcohol in medicine is by no means so simple a problem as the writer in the Times supposes it to be, a great deal of experience has been accumulated in the direction of showing that the lessening of the quantity of alcohol much below former standards of practice is, to say the least, not likely, under ordinary conditions, to increase the death-rate, or to retard recovery. To the medical officer alone rightly belongs the privilege of ordering alcohol as a medicine; and it behaves him to administer this potent agent with care, as he would other powerful medicines liable to dangerous abuses. The routine
Alcohol in the Workhouse.

administration of stimulants is now fast dying out; and is likely, we think, to disappear the more rapidly in proportion as the agent is more carefully considered. Alcohol should be prescribed medicinally, as most men are disposed to admit, with deliberation, judgment, and precision.

"As to the allowance of beer or other intoxicating drink to healthy paupers, there is, we expect, likely to be a liberal consensus of opinion. A large proportion of the inmates of our workhouses owe their pauperism to drinking. Not a few of them are habitual drunkards, whose only hope of cure is in unconditional abstinence. We are entitled to assume a general opinion that men and women in ordinary health have no need of stimulants; and it seems not unreasonable to suggest that, so long as beer is a part of the dietary of the healthy inmates of a workhouse, so long will their belief in the necessity and importance of alcohol as a common article of food for healthy persons be strengthened and confirmed."

These views are greatly in advance of what we have been accustomed to find in our leading medical periodicals, and must be highly encouraging to those medical practitioners who have been endeavouring for many years to enlighten their professional confreres in regard to the true place of alcohol in medicine.

The diminished consumption of alcohol in workhouses has been accounted for in various ways. The medical officer of Lambeth workhouse (Dr. R. H. Lloyd) has sent a letter to the British Medical Journal (September 2), in which he says:—

"One of the principal causes of the decreased amount of alcohol used in the metropolitan workhouses is undoubtedly due to the better classification of the in-door poor; in the year 1869, no London workhouse had any separate infirmary, and consequently the total expense in alcohol was charged to the whole workhouse, and not charged to the sick only. Again, in the year 1869, very few, if any, of the London workhouses had an adequate staff of paid nurses; there was usually one paid nurse by day, and one by night, and the work was done by pauper wardsmen and wardswomen, who were remunerated by the medical officer prescribing for them so much beer per day, and sometimes so much gin or brandy. I know of one workhouse where there were over ninety helpers thus remunerated for their trouble. Again, when a patient died, the pauper helper used almost always to expect three or four ounces of stimulants for laying the body out; and I remember well the disturbance I caused when, as assistant medical officer, during the absence of the senior one, I refused to sign for some brandy as a reward to a pauper for laying out a body.

"Now, all this is changed. Since 1869, one by one the several metropolitan parishes have erected separate infirmaries, under medical administration, for the treatment of the sick poor; paid nurses are employed, and pauper labour is being reduced to a minimum—perhaps it might be abolished altogether with advantage; and our poor-law infirmaries are equal, and in some respects superior, to the general hospitals. Thus it arises that so much less alcohol is now given in workhouses than in 1869; and the greater part of that which is now ordered in workhouses, although under the medical officer's signature, is really given, not as a necessity to enable the individual to do his work, but as a reward to those paupers who make themselves useful, such as bakers, carpenters, painters, &c., the medical officer thus becoming a sort of paymaster. This abuse is one which has grown slowly; and I would suggest to those medical officers who find a long beer list to sign every week, that they should adopt the practice I now follow, of refusing to put down any fresh names, so that in time the list will die out."
However the reduction of alcoholic consumption may be accounted for, there can be no doubt of the fact that there has recently been a gratifying increase in the number of medical officers who think they are doing the best they can for their patients, as well as for the ratepayers, when they discourage, as far as possible, the use of alcoholic liquors.

On the 4th of August there was an interesting discussion at a meeting of the Guardians of St. George's-in-the-East, when the medical officer reported that the cost of stimulants for the year previous to his taking office was £231 14s. 11d., against £95 6s. 3d. for the year to Lady Day, 1882, a decrease of £136 8s. 8d., notwithstanding 211 more admissions, and a lower death-rate of 2'1. During the discussion, Dr. Cooper said that

"He had, since his appointment, consistently endeavoured to reduce the consumption of alcoholic drinks as much as possible. At the same time he did not agree with the entire non-alcoholic treatment of the sick, as he held stimulants to be advantageous in certain diseases, when given with due caution and in defined doses as a medicine, not as a luxury. With regard to malt liquors, the medical officer stated that none had been supplied in the infirmary for the last twelve months, with the result that the patients had been more orderly, and that a better discipline was maintained. Many of the inmates were malingerers, with a disposition to exaggerate their ailments, and to such as these a pint of beer would be all that is required to make them contented. By stopping the supply of all they were not deprived of any necessary, and would be likely sooner to discharge themselves. The doctor's opinion with regard to malt liquors was that they were entirely unnecessary. With reference to the treatment of the inmates of the workhouse, he reminded the Guardians that last September he discontinued the use of malt liquors in the workhouse, but renewed the allowance in consequence of an intimation from the Board, although his own opinion was that the same treatment should be applied to the workhouse as to the infirmary. With reference to the arrangement with the nurses to give them a money allowance instead of beer, Dr. Cooper added that this had a marked effect on the discipline of the infirmary, as (1st) the nurses performed duties personally which previously convalescent patients were bribed by the beer to do; (2nd) he had not, since the alteration, had occasion to report any officer for intoxication; (3rd) the nurses keep awake much better than when they consumed the beer."

The Guardians were not quite unanimous in their endorsement of the course followed by their medical officer, but the following resolution was carried:—"That the Board, having heard the report of the medical officer on the subject of the administration of alcoholic liquors to the sick, hereby expresses satisfaction in, and concurrence with, it, and trusts he will continue his efforts in the direction indicated; and the Board further requests the medical officer to apply the same treatment to the inmates of the workhouse as to those in the infirmary." The "wise men of the East" are to be congratulated upon the adoption of a resolution that reflects credit upon them as well as upon their medical officers.
Proceedings of the
British Medical Temperance Association.

QUARTERLY MEETING—DISCUSSION ON THE OPIUM TRAFFIC.

The Quarterly General Meeting of the members of this Association was held on Friday, 18th of August, at the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square; Dr. Norman Kerr presiding, in the unavoidable absence of Dr. B. W. Richardson, the President of the Society.

Dr. JAMES RIDGE (the Honorary Secretary) read the minutes of the preceding meeting, which were confirmed.

The CHAIRMAN said he had great pleasure in asking a gentleman to address the meeting who would speak to them on a very interesting subject. Dr. G. Shearer, of Liverpool, had had great experience in the East, and he had very kindly consented to come to the meeting and give his experience on an important and popular subject, the title of his paper being, “Recent Apologists for the Opium Trade.” He had great pleasure in introducing Dr. Shearer to the meeting.

Dr. SHEARER, F.L.S., who was received with applause, read the following paper:

RECENT APOLOGISTS FOR THE OPIUM TRAFFIC.

The most powerful apologist, in my opinion, that has yet appeared for the Indian opium trade is our present Prime Minister, great and noble and distinguished as he is. In 1870 during a debate in the House of Commons, in reply to Sir Wilfrid Lawson, he said:—“I affirm that if we are to denounce the use of opium as something which is universally, essentially, and irretrievably bad, that must be done after it has been proved that the use of opium is to be broadly distinguished from the use of every other stimulant, a point which is not settled yet.” To the same effect the Marquis of Hartington, in last year’s debate, stated that “he held it not proved that opium is really so demoralising, not merely in its abuse, but also in its use, as to lead us to assist in the prohibition of the trade.”

Dep. Surgeon-General Moore says:—“The moderate use of opium, and the moderate use of spirits (as sanctioned by all law—human and divine—except Mohammedan law) I hold to be legitimate, and also, under innumerable circumstances, beneficial, both in health and sickness.” And Sir Charles Trevelyan recently observed:—“Opium is said to be specially suited to the stolid, lethargic Turanian nature. The experience of every country, in every age, seems to indicate that the use of some stimulant is necessary for mankind, and I cannot find that opium stands on a different footing in this respect from spirituous liquors. They are both gifts of God, which ought to be used without being abused.”

To which the obvious reply is, that the gifts of God are various. Some for our food, others for our medicine and solace in times of suffering, and it is not a legitimate use, but a manifest abuse and perversion of one of His most precious gifts to use a poisonous drug, valuable as a remedial agent, as a luxurious and effeminating sensual indulgence.

Mr. Gladstone’s argument is, that since all nations use stimulants and the Chinese prefer opium, which is a stimulant fit to be classed alongside of wine and spirits—a drug not proved to be wholly intolerable and productive of unmixed mischief, you have no moral right to deprive the
people of India who are engaged in
the cultivation of it, of what is
probably their only means of sub-
sistence." (It may be mentioned
parenthetically that the Ryots of India
are by no means enamoured of poppy
culture under the auspices of the
Indian Government, that they mani-
fest the greatest reluctance to its
extension, and that they and their
families are constantly being drawn
into the seductive practice of opium
eating in all the villages of the poppy-
growing districts).

According to Mr. Gladstone's argu-
ment we must take no steps in this
matter until we can broadly distin-
guish opium from every other stim-
ulant, and prove it wholly intolerable
and an out-and-out curse. But though
there is a distinction to be drawn
between opium and alcohol, and the
common use of the former may vastly
exceed in its baneful effects the
common use of the latter, which
there is an overwhelming weight of
testimony to prove, still, for the
purpose of justice and fair-dealing
towards an injured people, this is
unnecessary. The evils of spirit-
drinking are sufficiently great and
sufficiently disastrous in this country
to demand that we do not bring upon
another people an evil and a curse
of comparable magnitude by compul-
sion and against the national will.

And surely the universal testimony
of the Chinese people, amongst whom
no advocates for the practice can be
found; the nature of the commercial
treaties between the Japanese and the
Koreans and other nations which are
absolutely prohibitive of the trade in
opium, and the action of the Indian
Government in putting down the
retail sale of the drug in Burmah,
go as far in proof of the unmixed
mischief caused by the use of opium
as Mr. G. could desire.

Advocates there are none for opium
in the countries where its use prevails,
and it is clear as day that the Western advocates—Sir George
Birdwood, Surgeon-General Moore,
and Dr. Ayres—being all in the ser-
vice of the British Government, are
interested witnesses.

Let us take the evidence of Dr.
Kane, the author of the ablest treatise
on the subject yet published in the
English language, drawn from a large
acquaintance with the custom as prac-
tised in the United States, himself an
American, and therefore presumably
free from the prejudice to which an
Englishman, and more especially an
Indian official, is liable. On the re-

tative effects of opium and alcohol, he
says, "My wish is neither to over-es-
imate nor to under-estimate the be-
 neficial influence of the drug (in opium-
smoking) but to establish the question
on a firm basis of truth." "Viewed
from any standpoint the practice is
filthy and disgusting; is a reef that is
bound to sink morality; is a curse to
the parent, the child, and the Govern-
ment; is a fertile cause of crime, lying,
insanity, debt and suicide; is a poison
to hope and ambition; a sunderer of
family ties; a breeder of sensuality
and, finally, impotence; a destroyer
of bodily and mental function; and a
thing to be viewed with abhorrence
by every honest man and virtuous
woman."

"Some authors have attempted to
excuse the vice of opium-smoking on
the ground that it is less injurious
than spirit-drinking. Alcohol enters
directly into the composition of the
tissues, and when used to excess,
produces organic lesions of the viscera
that usually have a fatal termination.
Opium, on the contrary, rarely causes
organic change, its force being ex-

dended in variously modifying, dis-
ordering, or stopping function. The
opium-smoker does not beat his wife,
brake his furniture, stab his friends,
shoot his enemy, insult the passer-by,
or scatter his money broadcast while
under the influence of the drug, as
does the drunkard. Nor does he go
reeling through the streets, a disgrace
to himself and his friends, and wind
up his debauch, comatose, in the
gutter. I do not question but that if
25,000,000 Chinamen were daily be-

fuddling their brains and ruining their
bodies with liquor, the ill-effects upon
the individual and the nation would
be as great and even greater than
those arising from opium-smoking.
"This, however, cannot be offered as an excuse for England's course, or in extenuation of the prevailing vice. Robbery is still a crime though it be a lesser crime than murder."

But while organic injury is much greater in the case of the gin-drinking debauchee than in that of the opium-debaucher, be it remembered that the latter is all but hopelessly irreclaimable, while reformed drunkards are by no means rare; and that while moderate consumers of alcohol (as common experience testifies) are not perceptibly injured at all, nay, are, in many cases, benefited by it, and equal to every duty and emergency of life, moderate opium-smokers can hardly escape mental and moral injury, while they are all physically weaker for the habit. Loss of strength and loss of appetite are all but invariable results.† Again,

* Consul Winchester, of Shanghai, says: — "The greatest evil, probably, connected with opium-smoking is, that it cannot well be stopped."

The Rev. Dr. Collins, of Pekin, says: — "Out of many hundreds of opium-smokers with whom I have treated I know of not more than three or four cases of radical cure. When a man has been enabled, by the aid of medicine, to break off the habit, he nearly always yields again to the temptation and resumes the habit."

Of the thousands of applicants at the native hospitals who come ostensibly for the cure of the opium-habit, not one in a hundred has any genuine desire to renounce the habit; but simply, owing to his temporary inability to get the drug, he applies for something to stop the opium-crave. Says S. T. Maunders, "The cure of opium-smokers is becoming a less and less hopeful task with medical men." And Sir Thomas Wade, "I know of no instance of radical cure."

† The following categorical replies have quite recently been received from a member of the British Consular Service in China, in answer to questions addressed to him on certain important points at the present stage of the controversy:

Prove, if you can, that moderate opium-smokers are no worse than their neighbours who do not smoke, morally and physically? Answer: "As to morals, whereas moderate consumers of alcoholic beverages may continue to use the same quantity for twenty or fifty years, opium-smokers who remain content with the original half-mace or mace per diem are not to be found,—constant increase being the all-but unexceptional rule.* Even the most moderate use of opium becomes notoriously a greater necessity and more indispensable† than the moderate use of alcohol.

Dr. Myers, of Takow, Formosa, thinks opium-smokers may be divided into two classes: 1st, a minority, who, being either officials or well-to-do persons, can afford to give vent to their passion and indulge to an extent, which would, in many cases, justify the worst that has been said as to the effects and consequences of the vice; and, 2nd, the majority, consisting of persons who are obliged to work hard for a living, and among whom moderation is the rule. Even amongst the former class there are some who have a remarkable power of self-regulation, taking just so much as they know will abate the craving, remove the state of exhaustion, languor and misery con-

Chinamen are all pretty much alike; but physically, smokers are undoubtedly weaker."

* Prove, if you can, that there are vast numbers of Chinese who continue to smoke small quantities of opium for a period of many years, without increasing the quantity? Answer: "I should say there are none to be found who continue stationary in the quantity used; constant increase is the all-but unexceptional rule." Dr. Watson, of Newchwang, says, "The tendency of those who use opium is to increase the dose." N. C., a Chinese merchant, says, "Opium incites the moderate smoker to constant increase." And Sir R. Alcock says, "Moderate opium-smoking lasts only for a time; they all go steadily on to that stage which is self-destuctive."

† "Opium differs from alcoholic indulgence by the absolute necessity of having a daily quantity. A drunkard may abstain until means accumulate to enable him to purchase liquor, and may do his work efficiently in the intervals; but the opium-smoker must have his daily stimulant, or he breaks down." — Dr. Reid, of Hankow.
sequent on previous indulgence, but stopping short of all unmanageable or incapacitating indulgence. The highest amount said to be smoked by these "seasoned vessels" is from three to five mace per diem, and there is no reason to doubt but that many in this class retain sufficient self-control to continue the practice consistently with the discharge of their official duties or business, and with a fair measure of health and strength for many years. The tolerance of poisons by the human constitution is one of the most singular and least investigated of the processes of life. Habit blunts in everyone the sensibility to the action of opium; so that the dose, when often repeated, must be progressively increased to attain the same end. Yet the above form a class, or rather a sub-class, where progressive increase seems unnecessary, or, at least, is guarded against and not practised. They have attained to the knowledge of the amount required to remove the depression consequent on the habit, and to render them active and alert in business, and sprightly in conversation, but by no means extravagant—they take the drug, in short, in what Dr. Christison called contrasedative doses, and with this they are content. Nor do such persons, in general, suffer much from constipation, which is one of the minor symptoms incident to the commencement of the custom.

Turning to the other, or moderate, class of opium-smokers, consuming from one to two mace per diem, and including in it a vast proportion of the general public, together with coolies, chair-bearers and couriers, who undergo a serious amount of physical work, Dr. Myers says, the great bulk of these have been for years in the habit of using the same quantity of opium, seldom or never varying it; that by means of it they attain a certain degree of comfort in carrying out their labours, and that he has failed to obtain evidence which should justify him in attributing any marked harm to the habit. As a rule these people are laborious and industrious to a degree; but Dr. M. more than hints his belief that in every case where opium is so used from habit, as good, if not better, results might be obtained by the substitution of a more nutritious dietary.

"Of course, among every class of men, there are those to whom moderation is impossible, and who, in the gratification of their desires, will drag themselves and those dependent on them, to the lowest misery. This we find one of the greatest evils connected with alcoholic intemperance; but I must say that my experience, both here and in other parts of China, would go to support the statement that the use of opium through the medium of the pipe does not, at least up to a certain point, so irresistibly and inherently tend to provoke excess as undoubtedly is very often the case with the stimulants indulged in by foreigners. Were the seductive powers of opium so great and cumulatively overwhelming as has been frequently asserted, I cannot but think that, among the class of which I am now speaking, dependent as most of them are for a livelihood on their exertions, we should have a very much greater number of instances of its disastrous effects on purse and person; but I do most conscientiously state that although I have met with instances, in which the effects were most marked and deplorable, still, when considered in numerical relation to the numbers who smoke opium, I have been struck with their paucity and my preconceived prejudices with reference to the universally baneful effects of the drug have been severely shaken."

* Minturn, in his book, "From New York to Delhi," says:—"From what I heard in China I should imagine opium smoking does not produce those universally deleterious effects which are commonly ascribed to it in Europe. Like alcoholic beverages it is very susceptible of abuse, but the victims of over-indulgence in this drug are not relatively more numerous than drunkards are amongst those nations where habitual stimulants are of an alcoholic nature." Consul Lay says, "In China the spendthrift, the man of lewd habits, the drunkard, and a large assort-
Over against this testimony I may place that of Dr. Maxwell, late of Formosa, who says:—"The stimulant power of opium in enabling coolies and couriers to accomplish fatiguing stretches is, I believe, both misunderstood and over-rated. That it is a temporary stimulant to the habitual smoker is easily understood, and in shorter journeys no evidence of secondary depression is visible, and the drug is in consequence belauded. But put the opium-smoking bearer to severe tension, as I have occasionally seen in a long day's march, and a more miserable, washed-out, exhausted creature could scarcely be found." The testimony of Dr. Reid, of Hankow, is also opposed to that of Dr. Myers. Dr. R. says:—

"Those who have to earn their bread by the sweat of their brow have generally a wholesome dread of the habit. They are aware of the debilitating effects and of the certain ruin that will ensue on indulgence in opium. None of the hard-worked coolies can take it with impunity in what would be considered moderate doses (one to two mace daily). Anemia, emaciation, loss of appetite, and loss of physical strength soon entails begging for the labourer and his family.

This question seems to be largely one of temperance and race. The Chinese population of British Burmah (according to Commissioner Aitchison's report), "and, to some extent, also the immigrants from India, habitually consume opium without any apparent bad effects, and those of them who have acquired the habit do not regularly indulge to excess. The Burmese and other indigenous races, on the other hand, seem quite incapable of using the drug in moderation. A Burman, who takes to opium, smokes habitually to excess. The habit once acquired can rarely, if ever, be broken off, and this infirmity of temperament is pandered to by the dealers in opium." Then follows the most ghastly picture that ever was drawn of the effects of the recent introduction of opium amongst that people. The Indians and Chinese have therefore more staying, or self-controlling, power than the Burmese who seem absolutely incapable of moderation in the use of opium.

I should be inclined to summarize the differences between alcohol and opium thus:—

That whereas the moderate use of opium is unquestionably much more injurious than that of alcohol to a man and his dependents—more debi-
lating, more impoverishing, more deteriorating; yet the effects of excessive alcoholic indulgence are worse for society, and the individual organism, which becomes the seat of visceral lesions in the heart, lung, brain, liver or kidney, commonly of fatal import. Tissue-changes, on the other hand, are unknown in the case of the opium debauchee—anæmia and emaciation being the most noticeable results; so that, if we could only secure complete renunciation of the habit, the bodily health of the opium-smoker is capable of immediate and perfect restoration.\(^*\)

Our position, therefore, is this, not whether opium or alcohol is the worse, or whether the two can be broadly distinguished; nay, it is altogether irrespective of the question of opium being a good or evil thing, but whether we have any right to continue enforcing this trade upon China against the national will? It is a purely political question as to the sincerity of the Chinese Government and people in complaining of this odious trade.

Deputy Surgeon-General Moore says, the Chinese Government has not been honest in its protest; the real reasons why they do not desire the trade being, first, the fear of the great exportation of silver; and, second, a stinging sense of humiliation from being obliged, as the result of British victories, to admit Indian opium to the treaty ports on a fixed tariff (although this does not prevent their placing any tax on such opium carried into the interior of China). But it may be averred in favour of the first argument that the principle of economising the national revenues is sound and justifiable policy, and that can hardly be deemed a vice on the part of the Chinese which is a virtue in English statesmen.

With respect to the second, there surely can be no justification for keeping up ill-feeling towards a friendly power, and still reminding them of old hostilities and humiliations by compelling them to admit into all the treaty ports the heavily-taxed Indian opium. But there is a far stronger reason for the conduct of the British Government which it does not suit Deputy Surgeon-General Moore to name, viz., the large annual revenue flowing into the Indian Exchequer from the cultivation and taxation of Indian opium, and without which Indian finances must be crippled, official salaries reduced, and public works, schools, &c., in India languish.

That, on the face of it, Great Britain is guilty of a grave violation of international law is quite clear; that we shall have to face a grave deficit in the Indian Exchequer, if the poppy culture in India is abolished, is equally clear. It remains to be seen whether God or Mammon is to carry the day; whether the national conscience, seeing the infatuation of the Chinese people for opium, and aware of the part we have played in fostering the vice to its present dimensions, and in still maintaining it, will forego the revenue of six to seven millions sterling for the sake of assisting the Chinese in their efforts to master this enormous and growing evil. "After a not careless on-looking for more than twenty years," says Sir John Smale, late Chief Justice of Hong Kong,

\(^*\) Judicial Summary. — Sir Robert Christison, and I know no medical writer of recent times better endowed with the judicial faculty, thus summarised the conflicting opinions—"That a few opium-eaters attain old age will not justify the conclusion that a fair proportion of them do so. . . . The probability is that many persons die at an early age of the effects of opium-eating. . . . I fully anticipate that further inquiries will show that indulgence in opium is not less destructive than the vice of drinking spirits. I cannot bring myself to think that the habitual use of a drug which produces such permanent narcotic effects as opium, disorders the digestive functions in so great a degree, leaves those who use it habitually in so miserable a state during the intervals of using it, as appears from their own confession, and leads obviously to emaciation and a worn-out elderly appearance at an early period of life, can be consistent, in general, with the enjoyment of health, and the chance of an average prolongation of the term of human life."
"I have come to the decided conviction that the opium-trade has spread abroad unmitigated evils among the masses of the Chinese population. The abolition of the trade is a money question—a weighty money question—but when we remember how easily money difficulties have been dealt with, when war with honour has been the cry, may we not hope that somehow we shall surmount even this money difficulty, when, by doing so, we shall establish an influence in China based on the highest moral honour?"

The fallacies of Sir George Birdwood's apology have been well pointed out in the Lancet for Feb. 11th, 1882.*

* Sir George Birdwood, formerly Professor of Materia Medica in the Medical College, Bombay, holds (Times, Jan. 20th and 31st, 1882) that opium-smoking is absolutely harmless. He does not place it in the same category with even tobacco-smoking, for tobacco-smoking, if carried to excess, may be injurious, particularly to young people. He considers that it is as harmless as smoking willow-bark, or inhaling the smoke of a peat fire, or the vapour of boiling water! The Chinese converts to Christianity suffer greatly from consumption. The missionaries will not allow them to smoke, and, as they also forbid them marrying while young, they fall into those depraved habits of which consumption is the inexorable witness and scourge. This statement of the liability or proclivity of Chinese converts to consumption is reiterated by Mr. Moore, in the strongest language, on mere hearsay evidence, for neither had ever been in China.

"An enormous percentage of the deaths of native Protestant Christians," says Mr. Moore, "is due to consumption." I am not aware that this statement has the least foundation in fact. Had there been the least grain of truth in it it must have come to my knowledge in one way or other during my six and a half years' residence in that country. I knew every case of fatal illness amongst the native Christians during those years, in the largest community of native Christians anywhere to be found in China, and there were but two who succumbed to pulmonary consumption, both being married men, and both chronic poitin.

"The opponents of a forced supply of a powerful intoxicant, commonly believed to be profoundly deleterious, will not unreasonably have counted on the sympathy and aid of all members of the medical profession. But the missionariness, and in delicate health years before embracing Christianity.

It is new to me also to hear that the Chinese enjoy singular immunity from diseases of the lungs and bronchial tubes. Nor do I see how this hangs with the admittedly remarkable frequency of haemoptysis. To give one example out of many. In 1870 I treated, in the Hankow Hospital, 5,000 patients, of whom 537 were suffering from diseases of the digestive system, and 534, or one-tenth of the whole, from affections of the respiratory system, including influenza, quinsey, croup, whooping-cough, acute and chronic bronchitis, asthma, and emphysema, pleurisy and pneumonia, haemoptysis, and pulmonary phthisis.

Mr. Moore is much nearer the truth when he says that the Chinese find it useful in the treatment of the febrile intermittents (fever and ague), which more or less afflict the population of the swampy plains along the great rivers of China; but even here there is a fallacy, for while opium may be admitted as decidedly helpful during the paroxysm, mitigating suffering, favouring diaphoresis, and so shortening the attack, it is no way prophylactic against the recurrence of the attacks. But the popular mind in the fen districts of England, as of China, readily confounds these two effects, imagining that what is good for cutting short the aguish paroxysm must also avail in fortifying the system against malarious influences. Dr. Trotter's testimony will be re-echoed by all who have had any practical acquaintance with the subject—"When given in the intermissions, opium has not the least effect either in preventing, or even mitigating, the succeeding paroxysm."

Nevertheless, under this deplorable misconception, it is undoubtedly largely used by the dwellers in the great plains of China, though it is a question whether it is not used with almost equal freedom by the inhabitants of mountainous districts which are free from malaria. The febrifugal properties of opium are doubtless due in part to the narcotic it contains in a percentage equal to that of morphia.
the opinion of Sir George Birdwood is
deprived of much of its weight from
the fact that his opinion was formed
when a student in Edinburgh, before
he went to India at all; while his
extraordinary denial that the smoke
of opium possesses any narcotic influ-
ence, because the constituents of
opium are not volatilisable, will raise
a suspicion of the value of his other
assertions. Professor Attfield has
pointed out that opium in combustion
may give off narcotic substances, which
are carried along by the smoke, al-
though after deposition they cannot be
volatilised, and abundant evidence of
the narcotic effects of the opium-pipe
has been given by innumerable ob-
servers, and may indeed be readily
observed in the East-end of London.
Mr. Moore confirms this opinion, but
agrees with Birdwood in asserting
that the moderate use of opium is not
only innocuous, but positively benefi-
tial to the Eastern peoples.

"Birdwood’s theory of the effect of
opium in lessening the action of the
intestinal canal, so as to assimilate
the digestive tract of orientals to that
of the herbivora, is far-fetched and
ridiculous. ‘Less dyspepsia,’ says
Birdwood; ‘much constipation,’ says
Moore. It will not be easy to con-
vince the medical profession that
either individuals or races are bene-
fitted by the habitual use of a stimulant
which notoriously, in its moderate use,
becomes a greater nuisance than does
the moderate use of alcohol. The
opium-eater, after a brief habituation,
is wretched and feeble without his
artificial strength, and the moderate
employment of opium is comparable
rather to what is now regarded as
the habitually excessive use of alcohol
than to its really moderate use. The
moderate, and even the minimum opium-
eater or opium-smoker, is a slave to his
stimulant, as the moderate alcohol-
drinker is not! The evidence for
this is overwhelming, and also of
the rapidity with which the opium-
consumer becomes ensnared, and the
extreme difficulty and rarity of rescue."

The *North China Herald*, which
possesses the great advantage of local
knowledge of the custom, and has
never committed itself to extreme
anti-opium views, confesses itself as
staggered by the theory of Sir George
Birdwood, that opium-smoking is in-
ocuous, or even beneficial, to China-
men. Sir George says: "Opium-
smoking is as harmless an indulgence
as twiddling the thumbs; it is a per-
fectedly innocuous indulgence, and one
which has secured the greatest tempe-
rance triumph of any age or country!"
Mischiefous nonsense! unmitigated
rubbish! as any man who lives in
China may very readily settle for
himself. All foreigners who have seen
the effects of opium-smoking, and all
Chinese moralists, condemn the practice
as a destructive vice, and place it on a
par with the grossest sensuality. As
for opium supplanting alcohol in
China, it is simply an outrageous
misstatement. If, in the earliest ages
of their history, the Chinese were ad-
dicted to intemperance, they have
from a very ancient date discarded
the vice, and been remarkable for a
couple of milleniums, for their abste-
emiousness and sobriety. Alcohol is
to this day used at all their feasts;
but no one thinks of trespassing the
limits of the strictest sobriety. The
Chinese temperance reformation dates
so far back as, by some, to be held coincident with, and a result of,
the introduction of the Buddhistic
faith from India.

On the subject of the non-volati-
bility of the constituents of opium
Sir George has made an unconditional
retraction since the publication of
Professor Attfield’s analysis of the stem of an opium pipe with its pitch-
like incrustations. "The incrusta-
tion," says Professor Attfield, "con-
sisted chiefly of black resins, rendering
the operation of extraction of any
active principle of opium, tedious and
troublesome. A substance was how-
ever finally isolated having all the
character of the chief narcotic prin-
ciple of opium, that is morphia. It
was, in fact, morphia."

The final and conclusive proof of
the matter, says Dr. Kane, is the fact
that the fluid secretions of the opium-
smokers contains morphia in quantity
sufficient to readily yield to the com-
monest tests. There is the further proof that the painful and distressing symptoms following abstinence from the pipe, yield with the utmost readiness and completeness to small doses of morphia, i.e. doses about equivalent to the quantity estimated to be in the system by the quantity found in the secretions. Furthermore, Reveil, a French chemist, quoted by Gubler in his "Principles of Therapeutics," found that the smoke of opium, when used in a Chinese opium pipe, "contains almost all the alkaloids of opium, and especially a great deal of morphone."

Dr. Armand's use of the opium pipe for the alleviation of pulmonary affections, my own experiments with the same agent in various diseases, and those of Dr. Reginald Thompson with opium cigarettes, as also the observations of Madigan on laudanumized tobacco, prove conclusively that morphia does enter the system in the opium smoke through the lungs and acts on the system, and is eliminated as such in the fluid secretions.

Sir George Birdwood says, "There are few finer people in the world than those of Googarai, Kattywar, Cutch, and Central India, and they are all addicted to the habitual use of opium. In Rajpootana high and low, rich and poor, indulge in it, in the most alarming excess measured by the quantity they take, but, as regards the mass of the population, with impunity."

Now Dr. Moore, when Superintendent of Dispensaries in Rajpootana, collected statistics about opium, and found that even amongst the persons attending the dispensaries, necessarily the sickliest of the population, only some 673 per cent. were opium consumers! On a second scrutiny he brought the percentage up to 11'29, and concludes with this important remark:—"I am obliged to confess that the proportion of people using opium in Rajpootana is not so great as I, in common with most Europeans, had imagined." These Rajpoots, says Sir G. B., are a splendid race, well-formed, and of the most chivalrous and romantic temperament, and their custom is to drink the opium in the form of an emulsion called Kasoomba. But since only nine men, at the outside, in every 100 take opium, whatever has the use of opium to do with the magnificence of the race? As well might one say that the vigour of the present English stock is due to the fact that some men smoke tobacco! It is bad to be wrong in one's facts, but Sir George Birdwood is doubly wrong, both in his facts and in his inferences!

Deputy Surgeon-General Moore's papers on "The Other Side of the Opium Question," reprinted from the Indian Medical Gazette, profess to set forth the benefits and advantages of opium to the Chinese and other peoples. "They are mistaken enthusiasts," says he, "who advocate the abolition of the traffic—an event which would entail increased taxation both to the people of India and the British ratepayer to the tune of six or seven millions sterling, a thing they would never consent to bear."

In the preface he says, "A few abuse, but far more find in opium a sense of enjoyment, of comfort, a necessity, and even a blessing." Yet, several times in the course of the book he distinctly modifies the statement by saying, "I do not advocate the use of opium," "It would be better for Chinamen and other races if opium were never used." "Confessedly the practice of using opium, in common with indulgence in alcohol, exerts sufficiently deleterious influences," &c.

But not only is this opium-advocate self-contradictory, but he is at variance with his fellow-advocates. "In Rajpootana," Dr. Moore says, "the only malady which opium-eating fosters is the minor malady of constipation; a conclusion doubtless somewhat startling to those worthy people who esteem opium-eating worse than spirit-drinking."

On the other hand, Dr. Ayres, of Hong Kong, says, that "opium-eating is a terrible vice, in contradistinction to opium-smoking, most difficult of cure, and showing rapidly very marked constitutional effects in the consumer."

And Dr. Murrell, of New York,
says, "there is, morally and medically, as great a difference between him who uses morphia hypodermically or by mouth, and him who smokes opium, as there is between the man who drinks raw spirits freely, and the man who takes wine or beer in company."

"Even children," says Moore, "I have continually administered without being much the worse for it (?) and the camel-feeders of the deserts and the impoverished ryots find it enables them to resist extremes of temperature and deficiency of food," &c. All which, applying as it does to the occasional use of the drug in seasons of want and under pressure of extraordinary effort, or during actual sickness, is willingly conceded, but nothing to the point. The occasional and medicinal use of the drug is a very different thing from its habitual use as a luxurious stimulant.

His second article begins with a fearful tirade of abuse of the character of the Chinese people, to whom he attributes every vice under the sun, without even one redeeming virtue, such as temperance, frugality, thrift, fidelity to marriage-ties, family affection, loyalty, industry, for which they have been famous from immemorial time. Their cruelty, licentiousness, avarice, cunning, fraud, duplicity and poverty, &c., says he, are such as to make them the very kind of people likely to become addicted to opium.

The argument would seem to be that even though such a worthless race were "polished off" the face of the earth through the agency of opium, it would be little matter; but what about his favourite Sikhs and Rajpoots, those fine chivalrous races, who all take to opium in some form? *

* Commissioner Aitchison found the elders in all the cities of Burmah protesting with one voice, that "Opium-smokers made bad workmen, bad relatives, and bad husbands;" "that it was sapping the strength and morals of the young men, who looked upon themselves as moral criminals" on account of the practice, yet were unable to renounce it. Now con-

On page 19 we are told that over and above these vices, that of drunkenness was also prevalent amongst the ancient Chinese, but that Buddhism drove it out. Yet on the following page Buddhism is classed along with the drunkenness which it drove out, and other vices and diseases which incite to the use of opium! "Now that a people distinguished by such characteristics, viz.: avarice, poverty, cruelty, excessive venery, liability to all kinds of disease, drunkenness, Buddhism, should become addicted to opium, does not certainly appear wonderful, for opium, in its effects, is exactly the agent to minister to minds so diseased." Was there ever such a jumble of ideas, such outrageous nonsense put forth in a man's sober senses? This very Buddhism which on one page is said to be the cause of the abolition of drunkenness, and on the next is classed along with it and every other vice as rendering the Chinese diseased in mind and prone to the use of opium, is claimed on page 74 to be an opponent of Christianity "worthy of its steel," a system which teaches the most essential virtues, and in this fact is to be found, says he, the true explanation of the non-success or retarded progress of missionary effort in India and China!

He says the Chinese prefer opium to alcohol because, amongst other reasons, of its cheapness and portability. Now, as Dr. Reid of Hânkow has shown, it is a ruinous indulgence for all but the rich. A powerful coolie will earn 200 cash a day, of which 80 is required for his own and 80 for his wife's food, leaving but 40 cash a day with which to feed and clothe his family. If he smoke but one mace daily he spends 60 cash, if 2 mace 120, so that this moderate allowance robs himself or his family, or both, of one-half their proper natural daily sub-

considering there is a great deal of human nature in men of every nation, how long, we would ask Mr. Moore, will he warrant his ideal race of Sikhs and Rajpoots to remain proof against the blighting and deteriorating influences of a drug which has left its sinister mark everywhere besides?
sistence! (The chest of opium which costs the Government £30 when delivered in Calcutta is sold by auction at £120, on the average.)

He says, "the native opium is much more deleterious than the Indian article," but of this there is no proof. Native opium is probably much weaker in narcotic principles and must be consequently less deleterious, as it is reported to be coarser in quality, more fiery, and of an inferior flavour. When he attributes the mortality among the poorer classes of Chinese to the use of native opium,—and he admits that the lives of such persons are shortened by the habit,—he seems to forget that all kinds of opium are destructive to persons of impoverished habits, and the stronger the drug the more deadly the effects.

Consul Hughes, of Hankow, says:—

"Native opium seems to be rather more in favour here than it was formerly. It is known to be generally used by the inhabitants of the localities where it is grown, and elsewhere by those who cannot afford to buy the foreign drug. But it is also stated that many well-to-do Chinese, who had been in the habit of smoking foreign opium, had given it up, in whole or in part, in favour of the native article, the use of which is believed to be less hurtful to the constitution and attended with less physical inconvenience. For instance, the confirmed smoker of Indian opium generally passes sleepless nights, whereas smokers of native opium do not suffer to the same extent in this respect. The Szechnei product contains much less pure opium than is contained in Malwah, the "touch" of the former being, according to the report of an expert, 44, of the latter 75. It is not therefore surprising that, as remarked by travellers, boatmen, and other labourers in Szechnei, should be able to smoke native opium without being unfitted for work."

Sir R. Alcock in 1869 reported to the Government of India that the native drug is less costly than the Indian, less potent in its effects, and, consequently, in all probability much less injurious. Consul Sinclair re-ported from Foochow in 1877 to the same effect.

If, then, the Chinese-grown opium is not so destructive as Indian, this, instead of being an argument for tolerating the Indian trade, is an additional condemnation. Our drug is, we know, pernicious in its effects: let us cease to force it into China, and leave them to supply themselves, if they will, with their own less injurious article.

But even Indian opium is weak in morphia compared with Turkey opium used for medicinal purposes in this country, the former containing 3 per cent. compared with the latter which contains from 12 to 17 per cent!—Kane.

He amused himself at the expense of those who declare that the seductive nature of opium is such that those who have even once inhaled the vapour, are slaves ever after; but every physician knows that a period of a month, or it may be months, is required to develop the "yin" or habit.

He denies that the habit is irremediable, and affirms that certain cures have taken place in gaols. The question is not whether a man may not be broken of the habit by compulsion, and deprivation of his liberty (and it is well known that men do not die when suddenly and completely so deprived of their stimulant in prison, whether that stimulant be opium or whisky); but whether the opium-smoker will ever voluntarily attempt renunciation of the habit, or, having attempted it, will not infallibly slip back into his chains. The answer returned by medical men practising in China is, on all hands, the melancholy one that the cure of the confirmed opium-smoker is becoming daily a more and more hopeless task.

One of the most noticeable after-effects of full doses of opium, as every physician knows, is great depression of spirits, a deep melancholy, and unspeakable discomfort; yet he denies that such effects accrue, and seems to forget that it just is for the relief of these symptoms that the pipe is ever and anon resorted to, Depressive recoil, says Anstie, follows the use of
narcotics in any but restricted doses for the sake of their stimulant effects.

"There can be little doubt," says he, "that when the fumes of opium are inhaled, and thus meet directly with the blood in its circulation through the lungs, the system becomes more quickly affected than when the opium is taken into the stomach, and passes through the slow processes of absorption or digestion." In this we entirely concur. Inhalation is by far the most rapid mode of influencing the system; but it must be remembered there is a limit to the amount capable of being received into the system by inhalation, inasmuch as after a few deep insufflations the nervous energies are overpowered, and further inhalation is impossible; whereas when a man swallows the drug, be it a grain or a drachm, an ounce or a pint, the whole is slowly but surely absorbed, the comatose state is indefinitely prolonged, and the foundation of dyspeptic derangements of the stomach and bowels and general emaciation is more surely laid.

Smoking opium is, then, the least deleterious, because the most wasteful and self-limiting method of using the drug. The active principles are only to a certain extent vaporisable by the heat of the pipe, which consequently remain behind in the pipe in the form of ash. These "Tsa-tze," or dregs, are carefully saved, mixed up with some fresh extract to impart flavour, and sold again to be re-smoked by the lower class of opium-smokers. I have placed on record three several cases of poisoning (fatal) by means of the opium-ash.

Dr. Ayres, as already quoted, says: "Opium-smoking bears no comparison with opium-eating. The latter is a terrible vice, most difficult to cure, and showing rapidly very marked constitutional effects in the consumer."

"Opium-eating," says Dr. Myers, "stands on a very different footing from opium-smoking. When taken into the stomach, incipient and cumulative craving is much sooner set up; rapid increase of the dose is absolutely necessary. The drug soon obtains the mastery, and manifests its influence in disastrous effects."

"Opium-smokers," says Bøeck, "do not appear to succumb so rapidly to the effect of chronic meconisms, or opiasmus, as those who eat or drink opium."

"Dr. Kane holds that the smoking of opium is not so destructive as eating the drug or injecting morphia. As compared with other ways of using the drug habitually, there is no question in my mind but that in smoking (1) it takes longer to form a real habit, (2) it works less physical and mental injury when once formed; and (3) it is much easier to cure. Take the following as an example: A young man who had been smoking steadily for two years tried the substitution of pills of cooked smoking-opium by the mouth, with the result of losing eighteen pounds of flesh in three weeks' time and destroying all appetite for food. He returned to the pipe, when the digestive disturbances disappeared, and he rapidly regained the flesh he had lost. Upon the morals, however, the pipe-habit exercises a very strong influence. The surroundings, the low companionship, and the effect of the drug, combine to effect anything other than a raising of the moral tone. Female smokers, if not already lost in point of virtue, soon become so. Financially, the habit has but one tendency viz., ruin, not so much for money expended on the drug (from 50 cents to 3.00 dols. per day) as from neglect of business and the impaired mental power brought to bear upon it for the short time that it receives any attention. Ho-King-Shan says, according to Calkins:—"For the wasting of time and dissipation of means, and the moral depravation of the man besides, the opium-pipe is without its rival." Sir C. Forbes writes: "For fascinating seductiveness, immeasurable agony, and appalling ruin, the world has yet to see its parallel." And Barnes: "Not the reptile, with its fascinating eye, draws the impotently fluttering bird so surely within its gaping jaws. Opium is a spirit of evil as treacherously beguiling as is the ch-fiend.
himself.' A hard smoker will spend the great part of the day in smoking, and consequently can devote but little time to his business or his family. It is a slow and tedious process,—cooking and puffing,—and, as some 'fiends' must consume enormous quantities to get any effect, it takes time. If the companionship is pleasant and the subjects of conversation interesting, time flies very rapidly."

Dr. Richardson maintains, on the contrary, that smoking the drug is by far the most rapid and intense method of eliciting the effects of opium on the human economy. Dr. Reginald E. Thompson, the author, or introducer, of the method of treating diseases by inhalation of drugs, found that $\frac{1}{8}$ of a grain of opium, i.e., $\frac{1}{8}$ part of the ordinary dose, produced effects far too intense on himself and three other healthy men, with dizziness, stupor, &c., to be agreeable, and that cigarettes containing no more than $\frac{1}{38}$ of a grain of the extract of opium produces very sensible effects. Nothing but the unscientific method in which Chinamen smoke the drug, and its excessive wastefulness, together with the fact already mentioned, of the self-limiting power of the system through the rapid development of the soporific effects, and consequent inability to go on drawing or sucking the smoke into the lungs, can explain the fact that as much as a couple of mace (120 grains) can be consumed daily on the average, yet with such comparatively disproportionate effects.

The treatment of the habit of opium-smoking by means of pills containing morphia is a lamentable mistake, which has led to the substitution in Formosa of the far worse and more depraving habit of opium-eating. One man, in Tai-wan-fu (the capital), imports 100 ounces of morphia per annum for the manufacture of these pills!

Mr. Moore quotes the testimony of Drs. Teacher and Anderson, who say it does no harm to the Malays: of Dr. Jessop, who says that after three years' experience he saw no ill effects so long as the smoker took his food well: and of Doolittle, who states that opium-smoking is comparatively harmless among the better classes, who are not exposed to hunger and want. Dr. Ayres, of Hong Kong, says it is a mistake to attribute to the smoking of opium, as a rule, the fearful and ghastly results with which it is usually credited. And he himself states that he has seen nothing more formidable than the "minor ailment of constipation" resulting, in Rajpootana, from opium-eating. But these experiences are neither comprehensive nor exact, and they by no means exhaust the subject. In the judgment even of Mr. Moore, the favourable side of the opium question is but as "the silver-lining to a dark cloud." Notwithstanding its general usefulness, its comparative harmlessness, "its comfort, necessity, and blessing," here is the conclusion of the whole matter by its chief apologist:—

"It must be admitted that, as a general rule, notwithstanding any exceptional instances of benefit, both Chinamen and other races would be the better, as a mass, if opium were never used."

The CHAIRMAN remarked that the subject, which was a cognate one to that of alcohol, had been treated by Dr. Shearer in a most thorough and exhaustive manner, and it was only due to the author that the paper should be carefully considered and discussed.

Dr. Drysdale entirely agreed with the conclusions come to by Dr. Shearer, and thought it exceedingly important that they should have the opinion of a gentleman who had been in China and had studied this great question there. He had been struck in the course of the reading of the paper by the quotation of opinions as to the harmlessness of opium, and he had been reminded that the same was said of alcohol and of tobacco, which one of his friends said was something like knitting with ladies. Even in this country there were not wanting evils of opium consumption, and it was to him an amazing thing to see members of the medical profession failing to detect the evils of the
practice. There was, however, little doubt that the opinions expressed were sometimes dictated by the position occupied by the person expressing them. He admitted that he had not had much personal experience in connection with this subject; but one of his first cases was that of a gentleman who had acquired the habit of smoking opium in Siam, and who undoubtedly succumbed very rapidly to the evils of the habit. He had also visited some opium dens in Tangiers some years ago, and he could fully confirm the description given by Dr. Shearer. He could not understand how people could apologise for this trade, and he moved that, "This meeting, having heard the evidence for and against the non-medicinal use of opium, condemns it as most injurious to health and happiness."

Dr. Thurn, having acknowledged the excellent service done by Dr. Shearer in preparing his paper, referred to the diametrically opposite opinions which had been quoted. He made no pretence of having had the experience which Dr. Shearer had had, but many years ago he spent five years in China, and though he did not give a great deal of attention to the subject, he had taken a great deal of trouble to find out anything approaching the pictures that had been drawn of the horrors of opium smoking. He had had a man cook whom he discovered to be an excessive opium smoker; but though that man was under his constant observation for months and months, he failed to discover anything wrong in him physically or morally. He paid a rapid visit to China some ten years ago, and for some weeks he lived in the Shanghai Club. He found that every servant in the club was an opium smoker, and yet the whole of the business was carried on there in an exemplary way. He had, moreover, been informed by a friend who had lived for months at a time in the interior of China that he had never found opium smokers incompetent to attend to their business. No doubt many opium smokers become emaciated; but there did not appear to be any other ill-effects, physical or moral. He did not wish for a moment to assert that opium-smoking was beneficial to any one; but he wished to state facts, and he thought it would be found difficult to discover an opium smoker without violating the ordinary laws of politeness. It was perfectly certain that opium would not prolong life, and there was no doubt that the excessive use of opium was very deplorable in its results; but it was probable that to some temperaments a moderate dose of opium would have temporary beneficial results. As to the statement that opium could not be taken in moderation for any length of time, he had known an opium smoker of thirty years' standing who did not show the slightest sign of being affected by the habit. He did not think it right to compare the opium traffic with the trade in alcohol; but he did not see a single argument in favour of abolishing the former which did not apply to the latter trade, and he believed that if the Indian people did not send opium to China other people would. The only way to stop the trade was by civilising the people, and giving them something better by which to stimulate their energies.

Dr. Ridge remarked that in the case of all narcotics even a moderate use of them generally stimulated a craving for the particular narcotic used, and thought that, in spite of appearances to the contrary, such habits produced a change in the moral nature. This was especially observable in cases where people were prevented by compulsion from obtaining the particular narcotic for which they had acquired the taste. Moderate use was simply the thin end of the wedge, and in certain temperaments the wedge was not long in splitting up the tree. He did not think their moral responsibility was all diminished because instead of forcing the Chinese to smoke opium they simply tempted them by giving them the opportunity of obtaining it. They did not blame the great tempter of mankind the less because he did not thrust the apple into Eve's mouth. It should not be forgotten that the evil was a spreading one, especially in America,
where, he believed, there were some fifteen thousand native users of opium. The only recommendation for the opium trade was that it produced a large revenue for the Indian Government; but it was certainly not to be countenanced on that account. Then it was said that they ought first to get rid of the trade in alcohol; but it was certainly better to get rid of one of two evils than neither. Dr. Ridge cordially seconded the motion proposed by Dr. Drysdale.

Mr. John Moir read an extract from a paper by Dr. John Kerr, of Canton, stating that there was an almost universal desire in China to get rid of the use of opium, but the giving up of the habit was attended with such horrors that very few were able to adhere to their good intention. The paper also advocated the establishment of some means to prevent the young from taking to this habit. Mr. Moir referred to the good which has been done by Bands of Hope in the United Kingdom, and, reverting to the evils of the use of opium, said he had seen most deplorable effects from its use. The vice appeared to be a growing one, and it was high time that some effort was made to put it down. He had been struck with the fewness of the apologists for the trade, and he thought the weight of evidence was undoubtedly opposed to it. Of course they could not count politicians, whose great aim was to obtain a revenue by the easiest means. As to the trade in alcohol, this society certainly did not lie under the ban of not having protested against that trade.

The Rev. Storrs Turner thought there could be no reasonable doubt as to the sincerity of the Chinese Government in this matter. The Chinese mandarins had a very bad character for venality; but there were many among them who were honourable exceptions to the general rule, and though it was opposed to their personal interests, he believed they were honestly desirous of putting down the traffic. The question of the food supply was the great question in China, and the growth of opium in China was a terrible danger to the food supply. He had been in China for eleven years, and on going out he was by no means inclined to adopt anti-opium views; but after being there for some time he found that even amongst the people themselves it was a fixed and universal opinion that opium consumption was immoral and criminal, and in the whole Chinese literature there was not a single expression in favour of opium. As to the difference between the opium question and the alcohol question, it must be remembered that it is not ourselves who contribute to the revenue by means of the opium traffic, but a foreign people upon whom the traffic was forced. The traffic was carried on against the protest of an alien people, and, indeed, thrust upon them by force of arms. The question was not between Great Britain and India, but between India and China, and it was therefore essentially different to that connected with the drink traffic.

After a brief discussion between Dr. Thin and Mr. Turner, principally with regard to the honesty or otherwise of the Chinese Government in regard to the question,

The Rev. G. Mabbs said he had ascertained from Sir George Birdwood that his experience in connection with the consumption of opium had been gained among the Chinese in Bombay; but anyone could obtain experience such as that in the East-end of London. Sir G. Birdwood's letters to the Times had assumed a certain importance, and it was thought that they were unanswerable, as no answers appeared. Full replies had been sent to the Times, but they were not inserted. He (the speaker) had visited the opium dens in the East of London, in company with Dr. Arthur Gamgee, of Owens College, Manchester, and he had seen some horrible sights there. Dr. Gamgee had also most distinctly traced the presence of morphia in considerable quantities in those who used opium. The testimony of those who have had experience of the evils of this habit was overwhelming, as was proved by the opinions of the
Chinese people themselves and by the official evidence laid on the table of the House of Commons last year.

Dr. Grant remarked that the difference between alcohol and opium was that the former was not forced upon an alien people by war and treaty, while the latter was. In reference to a remark which had been made with regard to the heavy tax imposed on Chinese-grown opium, he thought that showed that the Chinese Government were endeavouring to suppress the cultivation of opium by taxing its growth four times as much as grain.

The Chairman, in closing the discussion, thought they were all very much indebted to Dr. Shearer for his most interesting and valuable paper. It seemed to him that the opium question and the alcohol question were quite parallel, for in both cases the traffic was forced upon a people whether they liked it or not. As to the remark that habitual users of opium were able to perform their duties properly, and being unimpeached in morality, it was, no doubt, a fact that certain constitutions have a capacity to resist narcotic poisons, and that was due to this that only a minority of the people of this country became drunkards. But, after all, it was very difficult to get at the truth as to the effects of these narcotics, as they were not allowed to vivisect persons soon after taking opium or alcohol. The experience otherwise was quite superficial. This, at all events, could be said, that opium, alcohol, or other poisons were not necessary in a state of health. He thought the existing condition of the opium traffic was a deep disgrace to a Christian people, and they were much indebted to Dr. Shearer and the other gentlemen who had come to enlist their sympathies in the question, which was nearly allied to the question of the excessive use of alcohol.

The resolution proposed by Dr. Drysdale was carried unanimously.

Dr. Shearer, in acknowledging a vote of thanks, said there must certainly be a die media between the testimony of Dr. Thin on the one hand and Mr. Aitchison, in Burmah, on the other hand. Dr. Anstie had stated that opium in small quantities sometimes had the effect of a food stimulant, and this was doubtless the case. As to the remark that opium smokers performed their duties as well as other people, his experience was quite in the opposite direction. It should be remembered, in considering the opium question as contrasted with that of alcohol, that the British Government was not a brewer or distiller; but the Indian Government provided the means for the growth of opium; was, in fact, a great purveyor of the drug, and imposed heavy taxes on its export. As to the desire on the part of opium-smokers to get rid of the habit, his experience was that the desire was not a genuine one on their part, and while he was in China they were constantly trying to humbug him in this matter. All they wanted in coming to the foreign doctor was something to stop the opium-crave till means accumulated to enable them to resume the practice.

The meeting then closed.

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| Dr. Fitzmaurice, Dunning. | Dr. Wilson, Bristol. |

Enfield, September, 1882.

J. J. RIDGE, M.D., Hon. Sec.

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Miscellaneous Communications.

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THE BRITISH MEDICAL ASSOCIATION AT WORCESTER.

THE MEDICAL ASPECTS OF THE ALCOHOL QUESTION.

This subject formed the basis of a discussion in the Public Medicine Section on Wednesday, 9th August. The meeting took place in the Civil Court of the Shire Hall, and was largely attended.

The President (Dr. Alfred Carpenter, of Croydon), commenced by reading certain memorials urging members of the medical profession to do all they could to further the cause of temperance, and praying them to avoid as far as possible those prescriptions of alcohol which had done so much harm in years gone by. These memorials emanated from the British Women's Temperance Association, from the Quarterly Meetings of Women Friends for Yorkshire, Berkshire, and Oxfordshire, and from
temperance organisations in Plymouth, Gloucester, Worcester, and elsewhere.

Dr. Norman Kerr (London) in introducing the subject, said that there was a peculiar fitness in the discussion of that day. The echoes of the celebration of the jubilee of the temperance movement in this country had hardly died away ere, at the Jubilee Meeting of the British Medical Association, they were met to consider the Public Medicine Aspects of the Alcohol Question. A great wave of enthusiasm, accompanied by that radical change of personal habits which attested the sincerity of those embarked on it, was steadily sweeping over the land, and it was the duty of the sanitary advisers of the community, the experts in Public Medicine, to candidly investigate the influence of this widely-spread popular wave on the health and vigour of the people, that the interests of truth might be served, and that the welfare of the nation might be assured.

**INFLUENCE OF ALCOHOL ON THE PUBLIC HEALTH.**

The true influence of alcohol on the general health had been a *questio vexata* which had evoked a prolonged and animated controversy. It had been urged, on the one side, that all indulgence in alcoholic liquor had, in a state of health, an injurious effect. On the other side, this had been denied, and it had been as strenuously argued that the moderate use of such beverages was favourable alike to physical well-being and to robustness of morals. Let them endeavour to arrive at the truth.

**ALCOHOL AS A CAUSE OF DISEASE.— HOW IT ACTS.**

Disease might be induced by alcohol directly or indirectly. There were some diseases caused by alcohol, and by alcohol alone. Such were delirium tremens, dipsomania, and acute and chronic alcohol poisoning. There were diseases which might arise from other causes, but which were sometimes the direct product of alcohol. Such were alcoholic phthisis, alcoholic rheuma-

**MORTALITY PER 1,000.**

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<tr>
<th>Total</th>
<th>Temperate</th>
<th>Intemperate</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>23'1</td>
<td>44'5</td>
</tr>
</tbody>
</table>

In other words, the mortality of the temperate was double, and of the intemperate quadruple, that of the total...
abstainers. The number of admissions for sickness among the abstainers was only 10.7 per 1,000, less than among the temperate, showing that the diseases in the former group took a much milder form than in the latter.

**RATIO OF ADMISSIONS TO STRENGTH PER CENT.**

<table>
<thead>
<tr>
<th>Total</th>
<th>Temperate</th>
<th>Intemperate</th>
</tr>
</thead>
<tbody>
<tr>
<td>130,888</td>
<td>141,593</td>
<td>214,861</td>
</tr>
</tbody>
</table>

This striking testimony to the influence of alcohol on the disease and death rates had been confirmed by comparisons between groups of individuals belonging to friendly societies and life insurance associations. The most recent confirmation was to be found in an actuarial report on the sickness and death among the members of the London Grand Division of the Order of Sons of Temperance. The results of the investigation were derived from observations comprising 11,016 years of life in which the members had been exposed to sickness and mortality. The following table afforded data for a comparison between the experience of the Sons of Temperance and that of three other groups of members of two large friendly societies:—

**SICKNESS PER ANNUM FOR EACH MEMBER.**

<table>
<thead>
<tr>
<th>Sons of Temperance</th>
<th>M. U. Experience, Rural Towns and City Districts, 1866-70.</th>
<th>M. U. Experience, Rural Districts, 1866-70.</th>
<th>Foresters, 1871-5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7'48</td>
<td>26'20</td>
<td>24'68</td>
<td>27'66</td>
</tr>
</tbody>
</table>

In drawing sound conclusions from that table two reservations must be borne in mind. (1) That the observations as regards the Sons of Temperance were of a comparatively limited extent, embracing but 11,016 years of life, while in the records of the Manchester Unity were comprised 1,321,048 years. The law of average had, therefore, less chance of fully manifesting itself among the abstainers than among the non-abstainers. (2) The Order of Sons of Temperance having been established only in 1867, many years later than the other societies compared with it, its members had not all had time to reach the limit of their age; so that here again, through deficient observations, the law of average did not have fair play. But, after ample allowance for these drawbacks, the comparison showed a very great advantage on the side of total abstinence. It was probable that complete materials for comparison would show at least three times as much sickness among the Oddfellows and Foresters as among the Sons of Temperance.

Proof of the superior healthfulness of total abstinence was afforded by the fact that in some insurance companies there was a separate section for the abstainers, with the result that these invariably received a larger proportionate share of the profits than the non-abstainers. In the Whittington, the bonus in 1881 was 23 per cent. higher in the Temperance than in the General Department. From the last annual report of the Temperance and General Provident Institution, it appeared that the number of deaths expected in the abstaining section was 213. There were but 131, or eighty-two less. In the general or non-abstaining section, the expectancy was 320, and the actual number 290, or thirty less. So clear was the evidence that one company offered
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an extra bonus of 20 per cent. to teetotalers.

The vital statistics of the City of Glasgow afforded a good illustration of the effect of alcoholic indulgence on the death-rate. In 1821 the number of deaths, from Cleland's Tables, was 3,686, and in the following year, 3,690; but in 1823, when the reduced duties on distilled spirits began to operate, the mortality rose to 4,627 and in 1824 to 4,670.

### Number of Deaths in Glasgow.

<table>
<thead>
<tr>
<th>Year</th>
<th>1821</th>
<th>1822</th>
<th>1823</th>
<th>1824</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths</td>
<td>3,686</td>
<td>3,690</td>
<td>4,627</td>
<td>4,670</td>
</tr>
</tbody>
</table>

Interesting evidence of the influence of alcohol on mortality was furnished by the Registrar-General's Reports, from which the following table was extracted:

### Mean Annual Rate of Mortality in England for Three Quinquennials.

<table>
<thead>
<tr>
<th>Class</th>
<th>Cause of Disease</th>
<th>Annual Deaths to 1,000,000 Living</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5 Years, 1865-9</td>
</tr>
<tr>
<td>I.</td>
<td>Zymotic Diseases</td>
<td>5,171'8</td>
</tr>
<tr>
<td>II.</td>
<td>Constitutional</td>
<td>4,145'4</td>
</tr>
<tr>
<td>III.</td>
<td>Local</td>
<td>8,887'2</td>
</tr>
<tr>
<td>IV.</td>
<td>Developmental</td>
<td>3,605'0</td>
</tr>
<tr>
<td>V.</td>
<td>Violent Deaths</td>
<td>797'4</td>
</tr>
</tbody>
</table>

From this table it would be seen that in every class except one the mortality had steadily diminished; but in Class III. the mortality had as steadily increased. In this class the principal increase had been in deaths from diseases of the brain and nervous system, of the organs of circulation, of the respiratory organs, of the liver, and of the kidneys. These were precisely the organs most apt to be seriously affected by indulgence in alcohol.

### The Mortality from Intemperance.

Alcohol being an irritant narcotic poison, swift in action and of great potency, it would be only in accordance with natural law if the general use of intoxicating drinks were the occasion of a considerable mortality. And so indeed they were.

It was difficult, if not impossible, to compute accurately the number of deaths from alcoholic indulgence. In the 43rd Annual Report (for 1880) the Registrar-General recorded only 637 deaths as having been due to alcoholism in England and Wales during the year. There were in addition 152 deaths returned as having occurred from violence while the sufferers were intoxicated. This made 789 in all. That this number was no indication whatever of the truth, everyone acquainted with the subject well knew. Why was this? Simply because on the death certificate the medical attendant very rarely mentioned alcohol as playing any part in the causation of death. If he did so, under the existing system of registration the peace of many a happy household would be destroyed by the revelation of the intemperance of some respected and lamented member of it, and by the publication of the scandal to the world. But if the certificate of death were seen only by some Government officer, and treated as a confidential document, to be used only for the purposes of public health, the true part played by alcohol in the causa-
tion of death would be much more accurately returned than at present.

Some years ago Dr. Kerr was led, by the feeling that the popular idea that 60,000 drunkards died in the United Kingdom every year was an exaggeration, to inquire into this intricate and difficult question. He had noted all the deaths in his own practice which were caused either directly by acute or chronic alcohol poisoning, or indirectly by the induction of secondary causes. Applying his own results, after due corrections for the special characteristics of his clientèle, to the whole number of medical practitioners, he had been unable to bring the probable number of annual deaths from personal intemperance below 40,500. The records of twelve medical brethren—some engaged in London, some in provincial practice—had shown a considerably higher average.

Shortly afterwards Dr. Thomas Morton collated the records of twenty colleagues, practising chiefly among the middle classes. Though Dr. Morton's returns comprised little more than half their due proportion of deaths in workhouses, and no deaths at all in hospitals, the average, applied to the total number of deaths in England and Wales in 1876, gave 39,287 as the number of persons dying either wholly or partially from their own intemperance. The whole number of deaths to which these 39,287 referred being 510,315, this ratio, applied to the total deaths in the United Kingdom in 1880, gave a grand total of 54,453, or 13,953 more than Dr. Kerr's estimate.

In 1879 the Harveian Medical Society of London classified 1,615 deaths of adults over twenty years of age occurring in the practice of some of its members, practising also mostly among the middle classes. Of these 1,615 deaths, 11.64 per cent. were partially, and 4.58 per cent. wholly, due to alcohol. From the Registrar-General's Report in 1880, there were 558,624 deaths in England and Wales at all ages. Deducting the 264,697 deaths under twenty years, the deaths above twenty years in England and Wales amounted to 263,927. The average of the preliminary Harveian returns applied to this total would give 42,808 deaths for England and Wales—30,721 being partially, and 12,087 wholly, due to alcohol; in other words, for England and Wales alone, 2,308 more deaths than Dr. Kerr had ventured to compute for the whole United Kingdom.

The Harveian Society had since been engaged in collecting similar returns from a very much wider area. The report had not yet been issued, but Dr. Kerr had every reason to believe that the results would substantially bear out those of the preliminary inquiry. If, following his plan of endeavouring to understate everything, Dr. Kerr took the collective Harveian investigation as showing 4 per cent. wholly, and 10 per cent. partially, due to alcohol, the result would be considerably higher than his computation. The deaths over twenty years were, in 1880, in England and Wales 263,927 in a population of 25,708,666. The population of Ireland and Scotland for the same year being 8,894,039, there would be in the same ratio in these two countries 91,298 deaths over twenty years. This would make 355,255 deaths over twenty years in the entire United Kingdom. Four per cent. and 10 per cent. of this total would give respectively 14,209 deaths caused wholly, and 35,522 partially, by alcohol. In all, 49,731, or 9,231 beyond Dr. Kerr's estimate.

Dr. Hardwicke and other experts had endorsed this estimate as most moderate, and Dr. B. W. Richardson had stated that he thought the deaths in this category were at least 50,000 annually.

But this was not all the mortality from alcohol. Besides those who died from the effects of drinking in their own person, a larger number of lives were lost through the indulgence of others in strong drink. There were deaths by violence and by accident; the suffocation of children through the drinking of one or both parents; and a long chain of innocent victims, weak women, and helpless children, either literally starved to death through
the intemperance of the husband and father, or with life gradually crushed out of them through the tyranny and brutality of him who ought to be their cherisher and protector. This indirect mortality from the intemperance of others than the slain was not only much greater than the direct mortality caused by the lethal influence of alcohol on the person, but was infinitely more difficult to compute. Though he had closely studied the subject for years, and had done his best to reduce the figures to as low a compass as possible, Dr. Kerr could not shut his eyes to the probability that, for every death from personal intemperance, there were about two deaths from the excess of others. The estimate of 40,000 dying every year in the United Kingdom from their own intemperance, and 79,500 dying from disease, violence, accident, or starvation consequent on the intemperance of others, had been submitted to several representative medical gatherings, and had, he regretted to say, not been seriously disputed. In fact, it had been pronounced moderate and far within the truth by such competent authorities as the late Dr. Hardwicke, and many other coroners and medical officers of health. Dr. Noble, of Manchester, attributed one-third of our disease to intemperance, and Dr. Richardson had given utterance to the opinion that were the British a temperate nation the national vitality would be increased one-third. Dr. Kerr said he need not point out that estimates based on these deliverances would greatly exceed his own, for a third of the total mortality for 1880 would be 235,775 deaths.

It was extremely desirable to have some more definite idea than they hitherto had been in a position to form as to the true mortality from alcohol. The observers had been too few, and the scope of their practice too limited, to warrant with anything like accuracy the application of the ratio thereby obtained to the total number of deaths. Besides, very few medical men had paid sufficient attention to the matter to render the counterfoils of their past death certificates a reliable mine of information. At least 500 reporters in active practice in different parts of the kingdom ought to be asked to note the particulars of all the deaths occurring in their experience during a certain specified period. A fair average might thus be obtained, and the ratio applied either to the total number of practitioners or to the total number of deaths.

WORKHOUSE STIMULANTS.

One topic was exciting great public interest, and had already attracted the notice of the Section—the topic of workhouse stimulants. At the Sheffield meeting he had had the honour of pointing out the remarkable diversity of practice in the prescription of alcohol to both out-door and in-door paupers. The average cost for stimulants, per out-door pauper on the books in the last week of 1871, varied from nothing in Chester to £1 13s. 6d. in Berkshire. For the in-door poor the average ranged from 6d. per head at Anglesey to £4 6s. 5d. at Knighton. In Ireland, in the same year, there was no charge for alcohol in four unions, while in one union the average expenditure per head of the number relieved was £1 5s. 10d. In Scotland, in 1876, the average varied from 5d. to 17s. per inmate.

There had been a considerable reduction in recent years. In 1876, in England and Wales, there was a decrease from 1871 of three-tenths of a pint, or 14d., per head. In London there had been a marked diminution in a number of unions. In the Local Government Board Report of the metropolitan workhouses for the year ending Lady Day, 1881, there were some figures so remarkable as to be almost incredible when compared with the corresponding items in the 1869 return.

It would be seen from the following table that in the Wandsworth and Clapham Union, with 53,000 more days' maintenance, the expenditure on alcoholic liquor was £715 less in 1881 than in 1869. In St. George's-in-the-West, with 52,000 days more,
there was spent on intoxicating drink £1,480 less. In the provinces in some unions there had been a very great reduction, as at Manchester, Barnsley, Falmouth, Wrexham, Helston, &c.

MARYLEBONE WORKHOUSE EXPERIMENT.

Dr. Kerr said that he had been favoured, by the courtesy of the able and experienced master, Mr. G. E. Douglas, with some interesting particulars of the striking reduction in the charge for alcoholic liquors in the Marylebone Workhouse. During the year ending Midsummer, 1881, the last year before the removal of the sick to the new infirmary, this expenditure was £1,633 for an average of 2,046 inmates. For the first three quarters of the succeeding year there was no expenditure at all for strong drink, with an average of 1,558 inmates, though a large number of the inmates had been included among the consumers of alcohol during the previous year. There had also been 202 births during the three quarters with no alcohol, besides a populous nursery, male and female insane wards, and urgent sick cases. Milk and beef-tea had been ordered by the energetic medical officer instead of alcoholic drinks.

MARYLEBONE INFIRMARY.

In the splendidly-equipped and well-ordered new infirmary at Notting Hill, there had been a steady diminution of the quantity of intoxicating liquid prescribed by the active and efficient medical staff. With an average of over 700 patients, the alcoholic expenditure was now at the rate of about £300 per annum.

ST. MARYLEBONE.—COST OF ALCOHOL.

<table>
<thead>
<tr>
<th>Average Number of Inmates.</th>
<th>Cost.</th>
<th>Average Number of Inmates.</th>
<th>Cost.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workhouse</td>
<td>£1,633</td>
<td>1,558</td>
<td>Nil.</td>
</tr>
<tr>
<td>Infirmary</td>
<td></td>
<td>738</td>
<td>£280</td>
</tr>
<tr>
<td>Total</td>
<td>2,296</td>
<td>£280</td>
<td></td>
</tr>
</tbody>
</table>

| 1881 (Whole Year)        | 1882 (Three quarters expired). |
EFFECT OF REDUCED STIMULATION.

Had this reduction in the amount of stimulants consumed been accompanied by any bad effect on the health of the paupers?

One medical officer alone had reported that a trial of two months of diminished stimulation had increased the death-rate and prolonged the period of convalescence. This opinion was so opposed to all former experience, that, at the request of the Medical Temperance Association, the Local Government Board sent down an inspector to inquire into the matter on the spot. The inquiry, which was as searching and full as it could possibly be, resulted in an official report that a very large proportion of the alcohol had been administered in cases which had ended fatally—that several fatal cases were of such a nature that the absence of alcohol could not have affected the result—and that the data were too incomplete to warrant the conclusion that the mortality had been increased by the lessening of the stimulants.

On the other hand, the late Dr. Simon Nicholls, of Longford; Mr. Brittain, of Chester; Dr. Collenette, of Guernsey; Mr. Sleeman, of Tavistock; Mr. Dixon, of Watlington; Mr. Wearne, of Helston; Mr. Bullimore, of Falmouth; Dr. Davies, of Wrexham; Dr. Webster, of St. George's, and other medical officers, had spoken in the highest terms of the beneficial effect of the entire, or almost entire, withdrawal of alcoholic drink upon the health and comfort of the inmates.

If there were no ground for the opinion that the diminution of alcohol increased the rate of mortality and prolonged the convalescence, there had been also no sufficient data for the opinion sometimes propounded, that the complete withdrawal of alcohol would lessen the death-rate. The various official returns show the fallacy of any such hasty and wide generalisation. In 1877 the parish of St. Cuthbert's, Edinburgh, spending only £24 per head on alcohol, had a death-rate of 27.85 per cent., while Peebles, though spending £2.13s. 10d. per head, had a death-rate of only 22.4 per cent. That is to say, though spending 352 times as much on alcohol as the former, the latter had some 5 per cent. less mortality. In Ireland, in 1871, while £1 5s. 10d. per head gave a mortality of only 18 per cent., three farthings per head, gave 35.50 per cent., and no alcohol at all in one house 19 per cent, and in another house 28 per cent. The truth was that there were many other factors in the causation of the deaths besides alcohol; and till they could eliminate all the other factors, which as yet they were unable to do, they could not possibly form an accurate opinion of the influence of alcohol on the death-rate of the sick. But they had reason to be satisfied with the proof that the withdrawal of alcohol did not increase the number of deaths or prolong the duration of the convalescent period.

THE BEER ALLOWANCE TO THE HEALTHY.

In many workhouses it was the custom to give a daily allowance of beer, or other fermented drink, to paupers not sick. For this there seemed no excuse. To say the very best that could be said of them, intoxicating drinks were not necessities, but luxuries, which could be done at least as well, if not better, without. Many of the ratepayers had a hard struggle to pay their share of the charges for the maintenance of the poor, and it did seem unjust that those who worked so industriously and practised so much thrift to enable them to pay their parochial rates, should supply the recipients of the aid with luxuries, the use of which was never free from a certain degree of risk. The injustice was the greater that the bulk of the paupers in this country had directly or indirectly come upon the parish through drink.

THE OFFICERS' BEER RATIONS.

It was usual to give an allowance of intoxicating drink to officers. In many cases when an officer did not consume this allowance he received
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no equivalent. This was most unfair. When brewers found it to their advantage to give their abstaining workmen higher wages than the others on the ground that the former were more reliable and did their work better (making in fact better beer), did it not seem an anachronism that public bodies should offer no inducement to abstaining habits? Dr. Kerr was sure that it would be a great gain to individuals, and to the public service, if the beer ration to officers were entirely abolished, and money payment given instead. At the very least, it was manifestly not fair play to give an officer not caring for the liquor, or declining on principle, neither a cash nor other equivalent.

The presence of strong drink was not conducive to good order and discipline. The newspapers constantly recorded the conviction of paupers out for the day for drunkenness and offences connected therewith. In many workhouses a large proportion of the inmates returned to the house drunk and excited. Not long ago, at a West-end workhouse, 340 women had leave. Within two hours they began to return drunk and riotous, till, in about thirty hours, over 200 of them had returned in this shocking state. Violence was not unusual, though the officials wisely took as little notice as possible of what intoxicated paupers did. Dr. Kerr had seen the marks of the teeth and nails of an intoxicated female inmate on an official day after the onslaught. There could be little doubt that the exclusion of strong drink from our workhouses would be a great boon both to inmates and officers, and the general health and comfort of all would be promoted. Mr. Douglas, of St. Marylebone, was of opinion that one of the great advantages from the exclusion of alcoholic drink was the improved discipline, for in the best regulated or smallest workhouse in which stimulants were given traffic existed in these articles. The result was that inmates were occasionally found under the influence of liquor and quarrelsome. Mr. Douglas added that since the discontinuance of beer and spirits there had been much less waste food.

That the Local Government Board were alive to the expediency of keeping the consumption of alcoholic drink as low as possible was evidenced by the very plain letter from the Assistant-Secretary to the Medical Officer at Littlehampton. In that communication it was stated that the experience of some of the largest workhouses in the kingdom, where stimulants had been practically discontinued or very largely reduced, showed that alcohol was not needed for the majority of the diseases usually met with, and that there were other means of sustaining failing powers and countering disease. For the beer allowances to officers and to the healthy pauper the guardians were responsible; but for the stimulants used in the treatment of the sick the medical officer alone was responsible, and it was greatly to be desired that he should confine his administration of alcoholic drinks to the lowest amount compatible with safety.

HABITUAL INEBRIETY.

The important and perplexing problem, How to deal with the habitual drunkard, had for many years occupied the attention of the Section and the Association. With the moral and religious bearings of drunkenness they had nothing to do, except in so far as it was their duty to point out that all the mischief arising from alcohol was brought about by the operation of physiological and pathological law. Moralists and theologians were apt to forget that inebriety was the effect of an immediate material cause. It was in virtue of the action of alcohol as an irritant narcotic poison that some men, women, and young people became drunkards.

Even in its mildest forms drunkenness was the product of a physical agent. If the habit of drinking were confirmed there not unfrequently followed an impaired nutrition of the nervous system and a change in the tissues of the brain, as in the tissues of the liver, kidneys, and heart, which was unmistakably indicative of a
diseased condition. Dipsomania, or drink madness, was as true a mania as pyromania or kleptomania. Not all drunkards were dipsomaniacs, but the number of those who might be said to be afflicted with the disease of confirmed inebriety was very great.

The subjects of this deplorable and intractable disease were, indeed, to be pitied. Their nervous organisation had been so shattered, their perceptive faculties so clouded, and their will-power so utterly broken down, that they were unable to resist the uncontrollable crave for the drink, and they defied the most persistent attacks of the philanthropist and the Christian. If they took the teetotal pledge they were constantly taking it and as constantly breaking it. Their intentions were good, but their execution was contemptible. Consumed with an unquenchable and irresistible thirst for intoxicants, they were bound hand and foot to a merciless master.

The disease of habitual inebriety owed its origin to a constitutional susceptibility to the narcotic action of alcohol on the nerve-centres. The chief predisposing cause was heredity. Dr. Kerr knew four ladies, three married and one unmarried, not one of whom was thirty years of age, who were all habitual drunkards. Their mother had been a dipsomaniac. The most usual exciting causes were, in females, the habit of taking stimulants for the relief of pain, and while nursing; in males, over-exhaustion of the brain, sudden nervous shock, family or business worry. In America from 15 to 20 per cent. of dipsomaniacs were females. In Britain the proportion was nearly twice as great.

There was but one means of cure—complete, lifelong abstinence from all intoxicating drinks. This condition should never be departed from, as cases of relapse had been known to arise from partaking of fermented wine at the Communion, and as a medicine, after even a long period of abstinence.

Such weak, broken-down, shiftless, diseased beings were quite unfitted to manage the affairs either of themselves or others. In the interests of common justice, and in fairness to the unfortunate families and others who were being injured by this veritable drink mania, there ought to be legal power to lock up such dipsomaniacs, and remove them from the temptations they were unable to resist. The Legislature had declined to grant this power, and it was only with great difficulty that an Act, the Habitual Drunkards Act, 1879, had been obtained authorising the compulsory detention for any period not exceeding twelve months of such habitual drunkards as should voluntarily surrender their liberty. The Act was very imperfect. The applicant for admission into a retreat licensed under the Act had to declare himself an habitual drunkard within the meaning of the Act before two magistrates.

The Act would expire in seven years, and unless some good results were forthcoming, it was very unlikely that it would be renewed. If, on the other hand, some typical cases of confirmed inebriety should be shown to have been cured under the Act, they would probably obtain from the Legislature, not merely a renewal, but considerably extended compulsory power.

Following up the excellent work of the late Drs. Dalrymple and Alford, and as a result of the efforts of the Habitual Drunkards Committee of the British Medical Association, a philanthropic society, limited by guarantee, had been formed for the purpose of opening the Dalrymple Home for the Treatment of Inebriates. Among the managers were the Archbishops and and other prelates, the Duke of Westminster, Lord Shaftesbury, Sir Thomas Watson, Sir Henry Thompson, Dr. Andrew Clark, Dr. B. W. Richardson, F.R.S., Dr. Cameron, M.P., Dr. Farquharson, M.P., and several members of the Association. The society were in treaty for a house and grounds in a healthy suburb of London, and hoped shortly to have the home ready to receive male inmates, either under the Act or otherwise. In Britain we were far behind America in measures for the treatment of the habitual drunkard, and as the Act was secured mainly through the influence and
exertions of the profession, it was the duty of the members of the Association, and of medical practitioners generally, to supply ample financial and other support for a fair and thorough experiment.

INCREASED CONSUMPTION OF NON-ALCOHOLIC DRINKS.

There had been of recent years an extraordinary increase in the production and consumption of unintoxicating drinks. The annual museum bore witness to the excellence and attractiveness of high class unfermented wines, zoedone, hodozene, and other pleasant wholesome and palatable beverages. The variety and extensive use of these non-intoxicants was a favourable omen of the increasing sobriety and consequent improved health of the community, and would therefore be watched with considerable interest by all enlightened students of public medicine.

Dr. Gray said he concurred in the view expressed by Dr. Kerr that the Habitual Drunkards Act under its present constitution was very nearly a farce, but, if amended, no doubt it had some very useful work to do. He had had a license now for nearly six months, and his applications had been about 100, though only one under the Habitual Drunkards Act. He had received many applications of late from either the wives or daughters of the intemperate, and the general question asked him had been, "Can these relatives of ours be put under your care or can you restrain or keep them contrary to their consent?" The answer had been, "They must sign their consent before two justices of the peace, and also produce a statutory declaration of two witnesses that they are habitual drunkards," and this, of course, had knocked the thing on the head. There were many habitual drunkards who were willing to get rid of their habit, but were unable to do so unless some restraint were put upon them. The difficulty was very great in going before two justices, who, probably, not understanding the Act, would quibble about every word it contained. At the time of passing the Act, the great objection by most persons was that it would subject every man who got drunk to being placed in a lunatic asylum, comparatively speaking; and, in fact, the general impression of people who placed themselves under restraint was that they were coming to a gaol, for which reason he urged that these places should be made as comfortable and attractive as possible.

Dr. Drysdale: I think we are all greatly indebted to Dr. Kerr for the persevering way in which he advocates this question. For myself, I feel the alcohol question to be a very difficult one, because we belong to a profession in which we do not like to be overnice one with another; and when I have the honour, as I sometimes have, of dining along with my fellow-members, I am not sure whether I should imitate them and drink wine, or whether they should imitate me. The point is what advice shall we give and follow ourselves, and then that may aid us when we are asked to administer it to others. It seems to me that whatever other part of society takes alcohol it should not be our profession; because really if I look back upon my hospital experience and private practice, one of the commonest causes of death that I have ever experienced has been from drinking in one form or other. I would mention that although we have very great statistics in England, they keep much better statistics in French hospitals. A physician of great experience in Paris told me that next to pulmonary consumption, no diseases seemed so prevalent as those due to alcohol. That would be very much my own experience in the hospitals of London. I think I may go so far as to say that my experience in hospital practice is that, next to pulmonary consumption, the commonest cause of death that I have seen among physicians' cases has been alcohol. Consequently, I do not exactly see where is the difficulty in the matter. Dr. Kerr has given us a series of statistics that, unless statistics are of no value at all—and they are the only means we
have of arriving at the truth—ought to be sufficient to settle the matter. At any rate, the experiment going on with alcohol and without it is on a gigantic scale. Look at the institution in London which insures people who are teetotalers and other people who are moderate. Its statistics on this point are the most remarkable with which I am acquainted. The supposition there was that a certain number of persons would die who were moderate drinkers, and it was thought that 213 who were abstainers would die; instead of that only 131 died—eighty-two less than were expected, whereas in the general section the expected number (320) was very nearly correct. Hence at the quinquennial period the bonus of the total abstainers was much larger. People say that statistics are of no value when they do not agree with them; but I say that if medical men are to be guided by facts, they ought to become members of the body of which Dr. Norman Kerr is so distinguished an ornament—the Medical Temperance Association. There are other diseases that carry us off; but here is one absolutely preventible. Consequently, if the medical profession were to pronounce in favour of temperance for all persons in good health, leaving the therapeutic question entirely out of sight, I think that would do a great deal towards converting people, and towards bringing about the time of which Dr. Richardson has spoken—when alcohol, and even tobacco, will be consigned to oblivion, and then, though plenty of other things may be left to kill us, we at least shall not kill ourselves.

Dr. Carter: Along with Dr. Drysdale and all other members of this section, I feel greatly indebted to Dr. Norman Kerr for the persistent way in which he has advocated this question. It is now as well established as any fact can be, that those who absolutely abstain from alcoholic drinks live longer than others, apparently as healthy and in about the same condition of life, who take a very small quantity. For my own part, relying simply on the statistics of the institution referred to by Dr. Drysdale, and marking the regularity with which quinquennial after quinquennial the expectation of death is always in favour of those who totally abstain, and always against those who are supposed advantageously to take the "dietetic quantity"—taking that along with what has transpired since the institution commenced, I should be willing to stand upon its statistics as a sufficiently broad basis for the scientific facts to be relied upon. Dr. Kerr alluded to friendly societies whose facts all seem to run in the same line, proving, however it comes about, that the small dietetic use of alcohol has the inevitable effect of shortening life. I think it would possibly be interesting to gentlemen here, as it was to me at the time, if I recalled the fact that some years ago Dr. Ridge gave what appeared to be the very probable grounds for these phenomena. In a meeting of the medical profession at Liverpool, over which I presided, Dr. Ridge gave us information of this sort:—He established, by an experiment I have repeated many times since, which depends upon the apparent similarity of those processes which go on in our own vegetative organs and in the lower forms of vegetable life, that the effect of an infinitesimally small quantity of alcohol upon such plants as mustard and cress was to dwarf and render them unhealthy. Such a small quantity as one in sixteen hundred will prevent the development of mustard and cress. Now, if we grant that there is a similar effect going on in the minute cells of our own vegetative organs as in those of plants, we shall be led to see there, I think, a reason why this lowering of health, not very apparent on the surface, would be quite sufficient to weaken the outworks and render a man more liable to the effects of disease. There was another series of experiments which I was assured by Dr. Ridge were to be trusted, and which were substantially these:—Ten men, young, hearty, healthy medical students of the University of Edinburgh, submitted themselves to this experiment—they remained three
months without any alcohol; at the end of that time they submitted themselves to the physical test of raising 56 lbs. one foot 100 times in a minute, and then there was watched, not only the increased rapidity of the action of the heart, but the effect on the pulse, and the length of time that the heart took to regain its normal beat. They then took a small quantity of beer, and again submitted themselves to this experiment, and an experiment of a mental kind also—learning a certain number of lines from "Paradise Lost." Taking first the physical experiment—the number of heart beats was highest, the range of elevation was considerably higher, than in the period of the first experiment, and it took a very much longer time to come down to the normal standard from which they started. There was the same difference against the use of alcohol in the mental experiment. I say, if these facts are accurate—and I have verified them again and again by actual observation—we see the reason why men apparently in good health and not much different from those who have been abstainers—I have been one all my life—are really more susceptible to the attacks of depressing diseases, and this will explain the fact that those who are teetotalers live longer than those who are moderate drinkers.

Dr. Scatliff: The question as to the use of intoxicating drinks in health was pretty well settled by the Medical Declaration, signed about the time the Prince of Wales was ill by 250 of our most eminent practitioners. That Declaration carried all we want. What we have now to contend with is the opinion of the public themselves. There is no doubt that medical men called in to see patients are looked at with distrust if they do not order alcoholic stimulants. I am a total abstainer, and have been so all my life. I have had thirty-eight years' practice under the depressing influence of London air, and I know that I can live very well and keep good health without intoxicating drink, and I believe this is the experience of many others. That need not be discussed; but what is our duty at the present time? We are called upon to conform to the customs of the times, and one custom is to have small quantities of drink, but we are satisfied that these can be dispensed with. Why do we take them? Because of custom and fashion; but in the course of a little time I think both will change. I know medical men who are total abstainers who do not like to come out as such. When I was in practice in Sloane Street I knew a great many persons who, although friends of mine, did not employ me because I was a total abstainer. This didn't much matter to me, because I had plenty of energy and patience; but they were afraid, and I have even known abstainers who were afraid for the same reason. I think we must wait for the turn of the tide, and meanwhile spread knowledge by discussing this question, and by acting upon our convictions.

Mr. Ritchie (Leek): I will venture to give you some statistics that have not been published. We have a fever hospital in Leek established in 1872, and I will give you the results of our treatment of fever patients there. The number admitted between 1872 and 1882 was 179. Forty-six were treated with alcohol, and the mortality was ten, making a death-rate of 217.4; 133 were treated without alcohol, and the mortality was five, the death-rate being 37.6. Those are striking results, and I commend them to the careful consideration of all present. I have been an abstainer for a very long time—over thirty years—and have very rarely used alcohol at all in my medical treatment. I have invariably found that my patients recover more rapidly without alcohol, and they certainly are less liable to disease. I have had some opportunity of forming an opinion on this question, and that is my decided conviction. In 1878 I read a paper in relation to public health and mortality, which was afterwards published in the British Medical Journal, and as each individual in his own sphere can corroborate what comes out in the Registrar-General's report, I can state exactly in our own district that these tables are confirmed. I have statistics
from 1851 to 1881, and in that time—especially from 1856 to 1860—we had some very good sanitary work carried on there, and the mortality in all classes of disease fell wonderfully, except in the local diseases; and the excess of these diseases was just in the very organs Dr. Norman Kerr has referred to—the heart, the brain, the kidneys, and the liver. In zymotic diseases we went down from nearly eight to not quite four, and now from 1876 to 1881 the deaths from zymotic diseases have been only 17 in the 1,000; but the deaths from local diseases have risen. It shows that the increase of disease has been entirely and solely in those classes where the taking of alcohol has influenced the death-rate. If each individual would look into his own district he would find these statistics entirely carried out, and that almost the sole cause of the increase of those diseases in their localities where sanitary measures have been carried out, may be traced to the habits of the individuals themselves.

Mr. Darby (from Ireland) said he did not attach much importance to statistics, because they were liable to so many disturbing elements. The medical constitution of the year—in other words, the weather—had much to do with the different forms of disease that came before them. He did not think they could treat many diseases without wine and whisky, or abandon these things as remedial agents entirely. But in this section they were dealing with the subject more from a health point of view than any other. He believed that a large amount of drinking was due to aeraed waters and to the brandy added to them. People should never drink except at their meals.

The President (Dr. Alfred Carpenter): Dr. Norman Kerr's observations were so well supported by statistics that they must have carried conviction that the grounds upon which he was treading were sound and right. The subjects he alluded to are such as require very careful consideration both from individuals and from governing bodies, so that something may be done in regard to discovering the effects of limiting the use of alcohol in workhouses and in hospitals, and that the subject may be probed to the very bottom. Then he alluded to the matter of habitual drunkards, and was followed by Dr. Gray. That subject presents the greatest difficulty, and it is one the Association has been working at for a long period with very little success, but we hope that by the efforts now being made, we shall have better success in the future. I will merely add that it will require all the influence of every individual member to get the habitual drunkard's question reconsidered. Dr. Drysdale's observations were very much to the point, because it does appear most extraordinary that medical men, acknowledging that alcohol is the cause of a very large amount of mortality, and that it is at the basis of an enormous amount of disease which develops in the constitutions of persons who have never been drunk in their lives, should ever prescribe it for ordinary daily use. I am not speaking of prescribing it as a medicine, but prescribing it as a necessary of life. Dr. Carter's observations with regard to teetotalers were perfectly true. There has been an important matter with regard to teetotalers brought out by one of the teetotal benefit societies, which will have a wonderful influence upon the working people of this land when it has been thoroughly established; it has been found by one of those associations that the sick-pay paid per year out of the funds of the benefit society does not increase with the length of life in the society; but taking the Oddfellows and the Foresters, it is found that the older a man gets, the more sick-pay he draws from his club. When thirty-five he draws more than he did at twenty-five, and so on. The result is this, that the Oddfellows and Foresters will not admit members past forty years of age. With regard to the Sons of Temperance Benefit Society, the particulars of which have been inquired into by an actuary, it is shown that the men between thirty and forty and fifty do not draw
one halfpenny more of sick-pay from the funds of the society than the men between twenty and thirty. If that is established on a firm basis, and I am satisfied it will be, it will have a wonderful effect in diverting the working-classes to the lines of teetotalism. Dr. Scatliff was very just in his observation—we do want the courage of our convictions. It is just at that point where arises the great difficulty. I have great sympathy with young medical men who have taken up this subject. They cannot afford to be total abstainers until the public go more with them than they do. I have had to feel myself the consequences of having given utterance to my opinions, and have suffered for it. I won't say that it has been to my permanent loss, because I believe it will be ultimately to my gain. I would say to young men, Stick to your convictions, and have the courage of them. The statistics of Mr. Ritchie demand our serious reflection. The only opposing voice has been that of Mr. Darby, who says there are not many diseases which he can treat without wine and whisky. In regard to that, I may say that for the last fifteen years of my life I have had a pretty extensive connection of one sort and the other, and I have not had recourse to alcohol in any disease. I have studiously prohibited it when I have seen it doing harm, and have never had reason to doubt for one moment but that its prohibition has been beneficial to my patients. Before I became a teetotaler I did carry out an experiment on myself like that which has been alluded to as having been carried out at Edinburgh—testing my powers when I took alcohol and when I did not—and I came to this conclusion, that when I took alcohol day by day I could not do anything like the amount of muscular or mental work that I did when I gave it up. Having come to that conclusion, I am justified in saying the same to those who are of a similar constitution to my own. I do not say we are not to use it as a medicine under proper circumstances; but I think there is something for us to reflect upon most seriously with reference to the question which some of the women of England have asked us to consider to-day.

A GENTLEMAN present, whose name did not transpire, asked: Can't we exercise a larger influence upon the medical profession and upon the public in this very important question? In workhouses, hospitals, and public institutions, there is the greatest uncertainty; and is not this a suitable time to make some sort of a manifesto? The revenue is beginning to suffer, and that is all telling in favour of this question, which is now more and more occupying the attention of the country.

DR. NORMAN KERR: I have really nothing to reply to. I did not meddle with the question of alcohol as a medicine at all, and, therefore, Mr. Darby's remarks are beyond the question. It seems to me it all resolves itself into this—the old Declaration of so many years ago (thirty or forty) signed by 2,000 of the leading men in the profession, that total abstinence from all intoxicating drinks would be conducive to the health, prosperity, and happiness of the whole human race. I have great pleasure in moving, with reference to the memorials, "That the President of the Section be requested to place the memorials now read before the general meeting on Friday, with a request that they may be published in the proceedings of the Association," and with your permission I have asked Dr. Joseph Smith, medical officer of Guildford, to second the resolution.

DR. JOSEPH SMITH seconded the resolution, and said that the discussion had been entirely one-sided, for the testimony had been unanimous as to the undesirability of using alcohol in a state of health. His experience was somewhat different from that of former speakers, for persons, knowing his temperance proclivities, had sent for him notwithstanding.

The motion was carried unanimously, and the proceedings closed.
LEGISLATION FOR HABITUAL DRUNKARDS.

On Thursday, August 10th, at the third general meeting of members, Dr. Alfred Carpenter read the following report of the Committee appointed to obtain Restrictive Legislation for Habitual Drunkards:—

"During the past year the committee have used every effort to further the practical operation of the Habitual Drunkards Act, 1879. The independent committee which sprung from the joint action of your Association, the Social Science Association, and the Society for the Promotion of Legislation for the Control and Cure of Habitual Drunkards, has merged into the Dalrymple Home Association, a society limited by guarantee, but with power to omit the word 'Limited' from its title, under a license from the Board of Trade, as being a philanthropic association. The Dalrymple Home is under the patronage of the Archbishop of Canterbury, the Duke of Westminster, Earl Shaftesbury, Sir Thomas Watson, Sir Henry Thompson, Dr. Andrew Clark, Dr. B. W. Richardson, F. R. S., Dr. Cameron, M. P., Dr. Farquharson, M. P., and other representative men.

A large number of sites have been examined, and negotiations are actively going on, so that it is hoped that the Dalrymple Home for Inebriates will shortly be opened in a healthy suburb of London. It is intended to apply for a license for the compulsory detention of such inmates as may elect to come under the provisions of the Act, and it is proposed to receive habitual male drunkards at a considerably lower rate than they can now be admitted at in similar private institutions. Feeling deeply the importance of this praiseworthy attempt to carry out the purpose of a beneficent though very imperfect Act, your committee earnestly desire to impress on the members of your Association the urgent need for ample financial and other support. The Habitual Drunkards Act will expire in seven years, but your committee trust that, under the curative influences of the Dalrymple Home, the cure of a few typical cases of habitual drunkenness will secure from the legislature fuller and more satisfactory compulsory powers. The committee have issued a second circular to boards of guardians having the power (if they chose to exercise it) of detaining habitual drunkards in workhouses, of which they are frequently inmates for the purpose of recovering from the effects of their excesses. To the first circular a number of favourable replies were received; and the responses already received to the last circular indicate a yet wider and fuller assent to the views of your Association. Your committee would strongly urge members of the Association to bring all their influence to bear on the boards of guardians in their respective districts. The replies are daily coming in, and the very general approval of your committee's views by parochial authorities affords good ground for encouragement."

Dr. Carpenter moved the adoption of the Report and the re-election of the committee.

Dr. Drysdale seconded the motion. Dr. Rogers said it was impossible to imagine the amount of misery he had witnessed amongst the poor in a metropolitan workhouse during a period of twenty-two years, and he was glad to find that what he had suggested at Cambridge two years ago had been adopted, namely, that boards of guardians were strongly urged to bring all their influence to bear on their boards in their respective districts. He hoped there would be legislation in that direction.

Dr. Gray spoke of the failure of the present Act of Parliament, and strongly suggested that the husband or wife should be sufficient evidence to enable magistrates to send a person to one of the institutions for reclaiming drunkards.

The Report was adopted.
THE NATIONAL TEMPERANCE LEAGUE AND THE BRITISH MEDICAL ASSOCIATION.

The Annual Breakfast given by the National Temperance League to members of the British Medical Association took place in the Shire Hall, Worcester, on Thursday morning, 10th of August, when there was a large attendance; about 220 members of the profession being present. The League's deputation consisted of Mr. Samuel Bowly, President; Mr. John Taylor, Chairman of the Executive Committee; Mr. Robert Rae, Secretary; and the Rev. Canon Leigh, Vicar of Leamington.

After breakfast, the President first introduced to the meeting Mr. William Strange, President of the British Medical Association, who said: Mr. Bowly and gentlemen, I really feel somewhat like a fish out of water. I mean to say, gentlemen, that this is the first time in which I have had the pleasure and honour and advantage of attending at one of these breakfasts, and I have to thank the President of this Society and the other officers, for inviting me to be here this morning. My only regret is that I shall not be able to remain long enough to hear the interesting speeches and information which, I have no doubt, will be laid before the meeting. When one of the gentlemen here present came to me some weeks ago and asked me whether we could accommodate them with a room for this meeting, I at once begged him to take the largest room that we could find in Worcester, and for this reason, that whatever the numbers might be who would attend this morning, I knew that they would be very large, and I hope that, by giving you the largest room, you would see that I, at all events, entertained the desire that the Society might continually increase. I should be deceiving you if I were to say that I had ever joined the Total Abstinence Association. I never have, but I have done this—I have done all I could to prevail upon many individuals to join. I now believe that if I had become a total abstainer ten years ago, I should have better health than I now enjoy, because I see this fact, which comes home to me as one who has a very delicate stomach, and can eat but little, that those who are total abstainers are able to take their food well, and plenty of it. Gentlemen, I will not detain you many minutes, except to welcome you to Worcester. I hope you will take as much part as you can in our entertainments. I have already sent the officers of this Society some tickets for our dinner, which I trust they will accept, in which case I have told them that they should not have the wine thrust down their throats. Another entertainment or two coming off to-morrow viz., Lord Beauchamp's gaden party, &c. should be open to any members of the League who are not members of the British Medical Association. I won't enter into matters upon which I am not competent to speak, but I will say this, what I have been saying to your Chairman, that two or three years ago, on a New Year's Day, when taking, as I think we ought all to take, some wiser and better resolves than we have been able to carry out before, I resolved that I would on every occasion that came before me put my foot down upon those drinkers who are killing themselves, body and soul, before my eyes. My first venture in that direction was a very sad one. One of my very best patients, a lady of very high standing, soon after leaving off alcohol by my direction, died, and the only consolation I had was that her friends said, "Doctor, better to die sober than to die drunk." Another lady (who didn't die) wouldments this step, and I was obliged to leave off my attendance upon her; but in other directions I hope I have been more successful. I do think if medical men will take the trouble with their patients when they see them killing themselves—and how many thousands do they see—to tell them so, they will do them essential service. "Oh! poor fellow,"
it is said, "he’s gone—what killed him?" What killed him? You cannot say drink killed him. He may be your friend, a public servant, a person respected, and you do not say the drink killed him, when the drink did kill him; but with many of these cases we have very large powers, and we should exercise them. Although I have been rather unsuccessful at the outset, I shall still persevere, and I will not see a man killing himself with drink without the strongest remonstrance on my part. If he will not abstain, I have resolved over and over again that I will withdraw from attending him, and I have done so.

Dr. Alfred Carpenter, of Croydon, said: Gentlemen, a meeting of the Committee of Council is to be held in a very few minutes, and it is requisite for office-bearers like myself and Dr. Strange to leave your meeting before hearing the excellent speeches which are to follow. My observations will be short and simple. No revolution that is likely to be perfect and substantial is sudden, and the action that has been taken by the British Medical Association has not been sudden. It has been of slow growth, and I have noted that growth since I have been connected with the Association. I have seen a difficulty at our meeting in introducing the subject of abstinence in any shape whatever. I have seen a difficulty in getting the wine excluded from the dinner table—at least from the lips of those who not wanting it did not see why they should pay for it. We have had these difficulties, and we have overcome them, and since the meeting at Cambridge there has been to the total abstainers no ostracism. They have been able to attend the annual meeting dinner without reserve, and that has been a step in advance. But a much greater step has been taken in this city of Worcester. Yesterday, in the Public Health Section, the subject of alcoholism was debated, and our opponents did not show their faces at all. They had no arguments to adduce that could be substantial and good, and therefore they left the field entirely to the total abstainers. I think, gentlemen, that in that respect too there has been a great advance. They did not leave the field absolutely, because one old friend, the Doctor of Bray, did stand up and say he could not treat disease without alcohol, and that there were diseases that must be treated with it, and a large number of them too. He was the only gentleman who did get up on the opposite side, and what he did say was a good peg on which to hang the observations we have to address to assemblies like this. I have to tell you that for many years I have been accustomed to treat disease without alcohol, and I have been accustomed to see the natural history of disease completely altered in those who have not taken alcohol. I have seen a particular disease go through forms that are not described in medical books, because it has never been thoroughly treated without alcohol, but I have seen it go through a different stage to what it has done when alcohol has been prescribed. I say that there are certain diseases, those especially connected with the heart, the brain, the lungs, and the kidneys, which take a different form amongst the total abstainers to what they do in those who are accustomed to take alcohol. We do see those diseases arise in the total abstainer, but what do we also see? We see that those diseases of the lungs, the brain, the heart, and the kidneys in the habitual drinker of alcohol are absolutely fatal. You know that where you have a certain form of disease of the kidneys occurring in a man it will kill him. You advise him to leave off alcohol. Perhaps he may, and perhaps he may hesitate in fear of going down hill in consequence of leaving off alcohol; but with the persons who never take alcohol those diseases do arise, but they go through a different form, and seldom have any fatality with them at all. (Expressions of dissent.) Gentlemen may say "No," but I can assure them that I have seen cases occurring where there has been dyspepsia, and all the symptoms that are usually
attributed to Bright’s disease, and which are certain to end in a fatal direction if alcohol is indulged in—I have seen those cases recover and leave the patients perfectly well without any damage whatever having occurred to the kidney. It is in that way that the treatment of disease with the abstainer is successful, and I want to show you in one or two words that it stands to nature it must be so, because what does alcohol do? Does it not harden fibrine? Does it not harden albumen, and prevent the excretion of the poisons that nature produces in our constitution? Does it not stop the excretion of those things absolutely necessary to be excreted? and yet we prescribe alcohol, and so keep them in the constitution. I say it is a wrong principle altogether, and we are upon the eve of a grand change which this institution is promoting, and I trust it will go on and conquer. There is no doubt in my mind, and I am certain there will be no doubt in the minds of those who will study the subject pathologically and physiologically, that the action of alcohol must be to keep in the constitution those poisons which nature intends that we should throw out. Bearing in mind that this is a subject comparatively new, and that medical men have not quite looked at it in that light, I am quite sure that these meetings will do an enormous amount of good by drawing the attention of members of the profession to subjects which they may not yet have looked at, and they will see the benefit that will result in the long run. I have seen it, and I intend to adhere to the practice which has brought it about.

The Chairman: I rise on behalf of the National Temperance League to give you a most hearty welcome to our breakfast table. I must confess that instead of finding fault, as some of our advocates have done, with medical men, I feel deeply grateful to them. They have done our cause an infinite amount of good, I am sure. Though there may not be a majority who take the views just expressed, the minority is increasing continually.

Indeed, I consider that, so far as the moral and social bearings of the question are concerned, our cause is proved. Whether a very small quantity of alcohol occasionally may be valuable as a medicine has nothing to do with our great question of delivering our country from the greatest evil that afflicts it. Now, I believe the only remedy is total abstinence. People talk about being extreme and carrying out extreme views, but if anything short of total abstinence would effect the great change that we want to effect amongst the masses of our fellow-countrymen, I do not think I should have attempted to take up total abstinence. It is because I believe there is no other remedy for the great masses that I have felt it my duty for more than forty-six years to advocate this cause. What we want now is, not so much to prove our case as to bring that case to bear upon the understanding and the feelings of the influential and upper classes of society. Do not suppose that our drinking customs are supported by the public-house and the low, vulgar drinking. The main support of our drinking customs, out of which this evil arises, comes from the respectable and educated classes. There are three classes especially who could help us most materially, that is, the aristocracy, to whom people will look up in those questions of society and custom, the clergy, and the medical men. You have an immense influence, and we entreat you to come and help us in this great work. We have laboured for long years and with great success, thank God, and we want the help you can render. Thousands of homes have been made happy and thousands of hearts have been made lighter by this movement, and we want to extend it, and extend it on the present occasion through your kind and generous influence. Gentlemen, will you come and support us in every way you can in this great and noble work?

The Hon. and Rev. Canon Leigh: Mr. Chairman and gentlemen,—I believe, sir, that this is the jubilee of the British Medical Association:
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it is also, curiously enough, as you, sir, of course are aware, the jubilee of the first movement in connection with total abstinence. It was in the year 1832 that seven brave men—and they must have been very brave in those days—met at Preston, and first instituted the Total Abstinence Society. One of these, at least, is still, I believe, alive—a living monument of the great work—I mean Mr. Joseph Livesey. Since that time we know how this great movement has gone on progressing. I may say that every ten years it has received some great fresh impulse. I believe it was in the year 1852 that the first great move was made, during the Exhibition, which led to the formation of your grand society, the National Temperance League, which four years afterwards was founded, and it is a great pleasure to me, as I am sure it must be to others, to see you occupying the position that you do to-day—for we look upon our chairman as a sort of living link between the past and the present, and I suppose that there is scarcely any man in this country who has done so much good in the cause of temperance, for this reason, that he is always temperate himself. There are certain advocates of the movement who are apt to be so aggressive that they perhaps hinder the work. Mr. Bowly never is that, but by his firm words, and by his courteous manner, he has won many over to the cause who might have been kept away from it. We come to you, gentlemen, with a patient. We come to see you to consult you. Our patient is our beloved country, and whatever may be said of the merits or demerits of total abstinence, I think medical men will all agree that this country drinks more than is good for it. I think that 130 millions spent directly on drink is too much. We want your assistance, at all events, to put a stop to this immoderate drinking, and you can give it. There is no class or profession which can do so much to put down excessive drinking as yours, not even ours, because you speak ex cathedra. Your patients will listen to you when some-
times they won't listen to us. You have only to tell them that they are killing themselves by drink, and they will be perhaps ready to listen to you and to give it up. I think that some, perhaps, of the older medical practitioners manifest a little hesitation—if they will excuse me for saying it—about telling a man straight that he is killing himself by drink. I have had cases under my observation of men, well known to be killing themselves, where the medical adviser had told the friends, and yet had not had sufficient courage to go straight to the man and say, "If you do not stop you will be a dead man in a year or two." Is there any danger in stopping a man's drink at once? (Cries of "No.") I do not think so myself, but yet there are gentlemen in the medical profession who do. I think the best proof that there can be no danger is that all those who are put into gaols have their drink stopped at once by that means, and certainly they do not come out any the worse for it. I should like to hear some opinion with regard to habitual drunkards. It does seem to me a most absurd thing that an habitual drunkard should be obliged, when he is perhaps in a state of delirium tremens, to tell his friends that he is an habitual drunkard, and that therefore he must be put under restraint. I do not think he is likely to do so. I want to know why he cannot be treated like any other lunatic, on the testimony of two medical men and two magistrates, and kept in some place of confinement nole
tus volens. There are many other matters affecting this movement on which I should like to have had the opinion of medical men, but I will leave the task of eliciting them to speakers who will follow.

Mr. John Taylor, Chairman of the Executive Committee of the National Temperance League, said: Gentlemen, on behalf of our committee, I beg to thank you for your response to our invitation, and also for the many years of courteous attention you have paid to our representatives upon this very important matter. We fully
appreciate the difficulties of your position in dealing with this subject in connection with your patients. It has been complained sometimes that hard terms have been used towards medical men in reference to the question of drinking, but I think you have found from us, who have had perhaps more than any other association direct communication with the medical profession, that we have accorded you a more generous treatment; and while we fully acknowledge the great services you have rendered, we also are conscious of the difficulties of your position. It is not always an easy matter to tell a person he is killing himself by drinking, and, if you tell him, to make him believe such is the case. The amount of delusion which hangs around the use of alcoholic liquors is one of the most extraordinary phases of this question. My observation of drunkenness is this, that one effect of alcohol is to burn out of a man, in many cases, all sense and appreciation of truth. That is a very great difficulty; and then you have the difficulty in the prosecution of your art (which has been described as "the art of amusing the patient while nature performs the cure") of dealing with people who have the strongest faith in alcohol; but still, all experience is accumulating every day in favour of total abstinence. I was saying to Dr. Strange that we can hardly grasp and systematise the accumulation of facts which are pressing upon us in favour of total abstinence. Our work is so far spread that it extends wherever the Anglo-Saxon tongue is spoken. Our work in the army and navy presents an extraordinary amount of fact and evidence in favour of total abstinence which it is well for you to study. It may not be known to you that we have a temperance association in every one of Her Majesty's ships. We have temperance associations ashore in connection with the navy, and the evidence in favour of total abstinence in the navy and in the army is perfectly extraordinary. In the Indian Army we have one in ten of the rank-and-file pledged and consistent teetotalers.

General Roberts said to me himself it was almost incredible—speaking just after he had come from his famous campaign in India—the complete absence of crime amongst the total abstaining soldiers of the Indian Army. All the authorities, both of the Admiralty and of the War Office, are coming to understand that we are the great promoters of discipline both in the navy and the army, and neither the army nor the navy are anything without discipline. Our work at first met with some jealousy by the authorities. They were shy about having an association within such a close borough as the army and the navy, and they thought it might militate against discipline, but now they are admitting that we are the great conservators of discipline in both services. I may be allowed perhaps to correct the chronology of the Rev. Canon. He fixed the formation of this Association as 1852, but we are of much older date than that. We go back to the early days of this movement, which will celebrate its jubilee. It is true that in 1852 the London Temperance League was formed, but the London Temperance League was afterward amalgamated with the National Temperance Society, forming the National Temperance League. Dr. Carpenter said, and said truly, that a revolution to be successful must be gradual; and this work of temperance had been a very gradual one. We have had to fight the dietetic use of alcohol inch by inch. When the movement commenced great advantages in the use of alcohol were admitted which we do not admit to-day. The heroic days of the temperance cause have passed. Forty or fifty years ago, when it commenced, it was felt that those who took up this cause did it at some risk and at some sacrifice to health and strength; but experience soon proved to the leaders of this movement that there was no such risk and no such disadvantage. Many of those who first laid hold of this question were not men of robust health. Our president was one of those men respecting whom the great body of medical men said he was just
the very man who needed the glass of wine. I myself in my young days was anything but robust, but I am thankful to say that my constitution seems to have been growing in strength with my age; and after forty years of total abstinence, after a life of constant exertion and very varied employments, I feel satisfied that I have added immensely to my strength by my practice of total abstinence from alcohol, and also from tobacco, and all other narcotics. We cannot improve upon nature by the use of these things. While we feel indebted to you, and especially to the advanced scientists amongst you, yet still we are of opinion that the practical experience of total abstainers has accumulated for your observation and use an amount of evidence in favour of total abstinence which cannot be resisted. Would you excuse me for adding one word? In listening to medical gentlemen who are speaking on the subject, they seem at times inclined to look at the matter wholly in a scientific point of view, and rather put aside as less worthy of their consideration those moral consequences which affect us most. I think not only as men, but as scientific men, the action of alcohol on the moral qualities of the man is as worthy of your attention as any other. The fact that alcohol demoralises the will is quite as much a matter of importance, even in the treatment of disease, as that it demoralises the liver; and that it demoralises the will is one great reason why no person should touch it, because, just as the victim to intemperance wants more and more the power of the will to draw back from his position, just so the power of will is weakened. While in the room I have received a memorial to your Association, from the Devonport Ladies Association, signed by 'Agnes Weston.' Agnes Weston is at the head of this Naval Temperance Society which I have referred to, and I do not know either man or woman who is doing the extraordinary amount of work with the same unvarying success that she is doing. She is in communication with every one of the ships. Any sailor in the fleet has the right to address a letter to her, and she sends them an autograph reply. She has two Sailors' Homes at Devonport, one at Falmouth, and one at Sheerness, and has just opened an immense one at Landport; she is carrying on a work, in which she is assisted by Miss Wintz, that is simply extraordinary. The memorial I shall hand to Dr. Carpenter.

The Chairman: Whilst Canon Leigh was alluding to what should be done with the drunkard, it struck me—what is to be done with the children? I do not think, with all our efforts, we reclaim one in twenty permanently. I think our great hope is in the children, and I do not know any mode in which I have advanced my own views so much as by appealing to parents on behalf of their children. I believe medical men could often appeal to the mothers of those dear little children that cling so closely to their hearts, in asking them to bring them up free from the temptation of intoxicating drinks.

Mr. Lennox Browne, F.R.C.S. (Central London Throat and Ear Hospital): Members of the British Medical Association, I call upon you to give our hearty thanks to Mr. Bowley and the members of this great Society for their hospitality for many years to us. I have had the honour and the pleasure of attending these breakfast meetings now for some eight or ten years, and have been very much struck by the moderation displayed by all concerned. We used to come sometimes, some of us, to these breakfasts, not in a spirit of opposition, but in a spirit of chafe, rather than as an enjoyment, but now we come to them in a greater spirit of earnestness, believing that we learn something, and believing that we ourselves can bring something from our own experience, and practice, and teaching, and precept to bear upon the subject. I am glad to see that this is called a "Temperance" Association. I believe in temperance. I am one of those who say that I have never yet felt the necessity of allying myself with total abstinence.
I am rather against the separatist point of view in anything; but that is merely my own view. At the hospital with which I am connected, treating some 5,000 out-patients annually and some 200 or 250 in-patients, our bills for stimulants has been under £1, and three years ago it was under 1s. I think this may be granted, that nobody ever withstood heat or cold, or worked better from drink. It is certain that the man after his ten o'clock beer in the morning does not do his work better. I am sure of that.

The late Justice Lush was dining on one occasion with me, and he had the honour of sitting next him, and he said: "For many years I took a bottle of port at dinner, and I used to take wine at my lunch; I now take bread and butter and milk, and I do not think my judgments are worse in the afternoon than in the morning." I think all doctors who wish to do their work well must not take wine until the end of the day. I am not sure that a little wine at the end of the day does harm. I fancy it recuperates, I fancy it prevents waste; but I am quite certain it does mitigate against work, and I am equally certain that ardent spirits do harm. Almost all doctors now are in the habit of telling this to their patients. I am connected a good deal with people who use their voices, and especially with singers. There has been an impression amongst singers that they must take alcohol. They often say, "What am I to sing on?" Some years ago I wrote a little pamphlet to Sims Reeves. Now there is an unfortunate impression abroad that Mr. Sims Reeves indulges in stimulants; but that is not so, for he is one of the most temperate of men, and almost an abstainer, though a martyr to a very bad form of gout. I asked him his opinion, and he said abstinence was the only way to sing your best. This testimony was copied into all the temperance and many of the musical papers, and was not only an advertisement for him, but a very good advertisement for my little pamphlet. I am sure that the experience of Mr. Sims Reeves would be borne out by that of all our greatest singers. We know that there is a form of voice associated with alcohol that is destructive of purity, of timbre, and of quality. It would have been impossible to have had that purity of voice which the boy exhibited who sang in the Cathedral last night if he had been drinking. His enunciation would have been less distinct, at any rate, if he took stimulants. That is a point that cannot be too much dwelt upon—that it is far preferable to sing on food than on stimulants. Mr. Taylor has said we do not sufficiently observe the moral aspect of this question, but I contend we do observe it. We are often consulted in cases in which no prescription is wanted, but simply instruction on the moral aspect. I have unfortunately seen two cases lately, one of a clergyman, and another of one of the best Christian gentlemen I ever knew—brothers. One has died, and the other is dying, not from drink in the way of intemperance, but certainly from taking more drink than was good for them. To another relative of theirs I said, "I do not want to offend you, I do not mean to say you are a drunkard, I do not suppose you ever got drunk in your life, but you are taking more stimulant than is necessary, and if so you are taking enough to be harmful to you;" and I am sure that we do say that continually. We may not have said it in years gone by, but we do say it now. We may not go the whole length of Dr. Carpenter or Mr. Taylor, but I am sure we shall take the safe middle way.

Dr. Charles West (of Bolton Row, Mayfair, and Nice): I ask the privilege of seconding the vote of thanks to you, sir, because, looking round the room, I do not see many heads—any heads—greyer than mine, and because I wish to bear my testimony as that of a man no longer young to the extreme value of those weighty words of wisdom which you, sir, utter, and which it is my firm belief, sent as far as they can be sent, will do more to make converts to your cause than a very large number of the
speeches that we hear on this most important subject. We are all with you in principle, and we are with you to a great degree in practice, and perhaps thanks come with greater grace from those who have not enrolled themselves in your army than from those who look up to you, sir, as their general. I know not of anything which, when the sun is going down with one, brings greater joy than the consciousness that one has not lived in vain in the world. You, sir, have more cause for happy reflection in this respect than most. Your position is one that I most sincerely envy, if it is permissible to indulge one of what ought to be the baser passions. One word I would add, sir, and that is to endorse what you have said with reference to the children. Of the children I probably have a greater right to speak. Save the children, sir. Get hold of the children. Bring them up in the way of temperance, and you have led them then into all the paths of virtue. I know not, sir, how long many of us may have to live. To you, sir, and to me also, the years may not be very many, but for no one in this room can I indulge a better wish, a higher aspiration, than that, if they live to the age of eighty-two, they may look back upon a life spent as yours has been—a life of good teaching enforced by better example.

The President returned thanks briefly for the kindness that had been shown him.

Mr. J. J. Ritchie, M.R.C.S. (of Leek, Staffordshire) : My words will be very few indeed. I would just ask my professional brethren here to be very careful in prescribing alcoholic drinks to those who, unfortunately, have been intemperate, and have been to some extent reclaimed. I know that this may be done with perfect unconsciousness of evil to them, but I have seen frequent mischief arising, and in some instances the results have been extremely sad. Do not say, "Go and take a glass of so-and-so," a composition of which you know almost nothing, but give them the thing in the dose in a disguised form, and according to the mode in which you give any other drug. If that were done, in many a case we should prevent the evil results which follow so often the prescription of alcoholic beverages. I have in my mind several cases in point. One was that of a man in the legal profession who had been raised from utter degradation up to a position of responsibility. The doctor to whom he applied in reference to some little ailment some three or four years after his restoration said, "Oh! take a little whisky." If he had sent that whisky as a medicine disguised in some way no harm would have resulted. The man, however, took the bottle of whisky and finished it, and from that time he never recovered. This may seem foolish, but it is a fact in hundreds of cases where prescriptions are given in that indiscriminating way.

Mr. W. H. Folker, F.R.C.S. (of Hanley, Staffordshire), called attention to "one of the greatest evils of the present day"—the grocer's license. It enabled women to get drink under the guise of different articles. Many women who would scorn to enter a public-house had no such feeling as to the pastrycook's, where wine was sold. He hoped that no exertions would be spared to obtain the repeal of that most mischievous legislation.

Dr. F. J. Gray (Rugeley) spoke on the habitual drunkards' question in very much the same terms as those he employed at the discussion the previous day. (See report.) Proceeding to comment on what Dr. Lennox Browne had said, he confessed he could not understand how alcohol could do harm at one time and good at another. If it prevented a man doing his work, surely if taken after the work was done it must interfere with sleep or with work the next morning. He was convinced, and any chemist would say so, that there was no nutriment in alcohol, and that it was not of service to the human constitution. He could confirm what the last speaker had said as to intemperance amongst women, which was very much on the increase.

Dr. J. P. Scatliff called attention
to the British Medical Temperance Association, and invited members of the profession to join it.

Dr. H. J. Strong (Croydon) referred to drinking amongst women, which he believed to be largely on the increase, and advocated the abolition of grocers' licenses.

Mr. A. M. Sydney Turner, M.R.C.S. (Gloucester), declared himself to be an uncompromising abstainer, and said he advised his patients to abstain. There was no compromise with moral wrong, and neither should there be any compromise with what was hurtful to the body.

After a closing word from the venerable President, the proceedings then terminated.

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THE HABITUAL DRUNKARDS ACT.

The second report of the Inspector of Retreats under the Habitual Drunkards Act, 1879, was issued, on Sept. 7, as a Parliamentary paper. In addition to the previously existing retreat at Cannock, with the exception of one at Westgate-on-Sea, licensed to Mr. John H. Brown, for the reception of five male and five female patients, no new establishment has been opened during the year, so that only two are reported upon. The original one—Hall Court, Cannock, Staffordshire, the licensee of which is Mr. G. T. Mockett—will accommodate ten male patients; six were in residence on December 31, 1880; six were admitted during the year 1881, and twelve were discharged, leaving the establishment empty. There were no deaths during the year, and only one escape was made, the patient being shortly afterwards recaptured. At the Tower House, Westgate-on-Sea, six patients were admitted and two discharged, leaving four remaining on 31st December last. The inspector says:—"Cannock retreat gave me considerable anxiety during the earlier months of the year, owing to the want of harmony that existed between the licensee and some of his patients, and I was therefore neither surprised nor disappointed when I found at an unannounced visit which I paid on the 22nd November that the licensee had broken up his establishment, having previously obtained a magistrate's discharge for his remaining three patients, and left the town. However, since the end of the year now reported on, and only within the last two months, it has been reopened by a new licensee. Leave of absence has been granted, under Section 19 of the Act, in a few instances by a justice for a patient to reside out of a retreat at the request of the licensee. In one case only have I considered it necessary to advise the Secretary of State to discharge a patient before the expiration of the time for which he had signed, in consequence of business affairs that urgently required his personal attendance at home. Public-houses in the vicinity of retreats will not cease, I fear, to give serious trouble to licensees whose establishments do not possess sufficiently large grounds for the recreation of patients whose conduct requires that they should be confined within bounds, or where there is not a trustworthy staff of assistants to maintain adequate supervision of the patients when allowed out of bounds. In some cases patients have abstained from drink, and conducted themselves well during the whole of their residence in the retreats, and their condition on discharge afforded some hope of their permanent recovery; but having no record of their subsequent conduct I am not able to speak of the result with certainty. Others have done well up to the very day of their discharge, and have immediately given way to their prevailing vice. Others, again, have obtained drink in secret, and have broken out during their residence. For such cases as
these last two classes there is, I fear, but little hope of permanent cure. But as regards all the patients, it is almost needless to say that while they conform to the treatment prescribed their health and condition improves. On the occasion of my visits the patients generally appeared to me to be benefiting by the treatment, and in some cases had much improved. It is much to be regretted that the establishment of the proposed Dalrymple Home for the working and lower middle classes near London (to be licensed under the Act) has been so long delayed. Such an institution, charging moderate fees, standing in extensive grounds in a healthy situation, under the care of an experienced medical man with an independent remuneration, is, in my opinion, much needed."

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Notes and Extracts.

STIMULANTS IN THE MELBOURNE HOSPITAL.—The amount of alcoholic stimulants prescribed at the Melbourne Hospital has been the subject of considerable discussion by the Managing Committee. From the report of a recent meeting, we learn that there has been a very great reduction in each of the various liquors prescribed, except whisky. Taking the last week in April as an average for 1882, the decrease in cost for the current year would be as follows:—Brandy, £542; wine, £72; gin, £27; rum, £13; champagne, £64; porter and ale, £117; or £835 in all. On the other hand, the increase in the charge for whisky would be £11. Excluding the brandy used in the form of spiritus vini gallici, between the 1st and 29th of April there had been a decrease of 267 ounces of brandy, 397 ounces of wine, 14 ounces of gin, 12 ounces of rum, 6 ounces of champagne, and 42 ounces of porter and ale. —British Medical Journal.

DE LONG’S AMERICAN EXPEDITION TO THE ARCTIC REGIONS.—The thrilling record of the gallant struggle and last days of Lieutenant De Long’s ill-fated party in the far north has excited special interest. When the ration of even dog-meat began to fail, we read in De Long’s journal that he and his comrades had a “cup of third hand tea with half an ounce of alcohol in it.” Two days afterwards he notes that they were “about to undertake a journey of twenty-five miles, with some old tea-leaves and two quarts of alcohol.” For dinner they had “half an ounce of alcohol in a pot of tea.” Next day, half an ounce of alcohol and a pint of hot water. On the day following they had half an ounce, and on the day after that the last half ounce of alcohol. In twenty days more the heroic band had all died. What was the effect of this alcohol? De Long says “it keeps off the cravings for food, preventing gnawing at stomach, and has kept up the strength of the men, who are given three ounces a day.” Where all food was exhausted, and where even the alcohol gave out three weeks before the fatal termination, it would be presumptuous to dogmatise. But surely we may safely assert that if instead of alcohol there had been an equivalent supply of concentrated food, the strength of the explorers would have held out longer, perhaps just the little time longer that would have sufficed to take them to the settlement they were bound for. Be that as it may, there has been abundant proof from previous Arctic experience, that alcohol diminishes the ability to withstand severe cold, and after a passing spurt lessens the staying power. In other words, for a protracted struggle alcohol is injurious.
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THE CAUSES AND TREATMENT OF NEURALGIA.

By CHARLES R. FRANCIS, M.B.,

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Neuralgia is one of the most familiar, most dreaded (by those who are subject to it), and most, apparently, unmanageable disorders which the medical practitioner of the present generation is called upon to treat. Fifty years ago it was comparatively unknown; now, thanks to advancing civilisation and life at high pressure, it is one of the most fashionable diseases of the day. The victims of neuralgia possess the so-called "nervous constitution" in an eminent degree. This constitution may be hereditary or acquired; but its existence is, as a rule, essential to the development of an attack of the disorder. The causes which induce those agonising paroxysms of pain, of which "tic douloureux" affords a familiar example in it, are mostly inoperative (in respect to neuralgia) in persons not possessing this constitution. It is found co-existing with deranged habits of body, as syphilis, gout, poisoning from lead, mercury, &c. These foster, if they do not sometimes develop, the "nervous constitution," which, however, may be quite independent of any of them. The "neuropathic diathesis" may have been transmitted by ancestors, who have suffered from some form or other of nerve disorder, from which even insanity would not be excluded. The nervous irritability, associated with the "nervous constitution," occasionally plays the owner some peculiar and inconvenient tricks. In one case, recorded by Sir C. Bell, the patient would from sheer nervousness swallow a huge morsel entire, constraining him, he said, as it went down, to sing out, "Hip, hip, hurrah!"
In another case, the patient, who had a discharge—apparently not offensive—from the nose, would perceive every three or four days a dreadful smell, “horrible as can be imagined, which quite unnerved him, and ran him through.” In another case, an old lady, on entering a house (no matter whose), would have vibratory movements of the eyelids, which subsided when she went out again. Every practitioner is familiar with the Protean forms— their name is legion—in which this nervous irritability is apt to display itself.

Neuralgia, as its name (of Greek origin) implies, is simply pain of a nerve. Strictly speaking, the term is applicable to all kinds of pain; for, although we speak of pain in a particular part, it is in the nerves of that part that the pain really exists. The term has, however, come to be applied to pain which appears suddenly, now here, now there, plunging about, sometimes in a paroxysm of inconceivable suffering, the course of the nerve or nerves affected being often definable. What the exact condition of the nerve may be during an attack is not known with certainty, though it is probably due to pressure of some sort upon the nerve affected, and occurring in a person who, possessing the “nervous constitution,” is keenly sensitive to pain. And, as anodyne anti-spasmodics relieve the pain, the pressure is probably caused by vascular spasm. Where space is limited it is impossible to refer to the various theories as to the pathology of neuralgia; but this definition seems to be the most natural. As, in the persons of sufferers from neuralgia who have eventually died from some other disorder, post-mortem examinations reveal nothing, there is evidently no morbid anatomy, no change of structure.

Causes.—Neuralgia has received a variety of names, depending upon locality or the cause that gave rise to it; as facial neuralgia, intercostal d^a, gouty d^a, syphilitic d^a, &c.; but all have, probably, the same* pathology. In those who are predisposed to the disorder, and who have already suffered from it, the slightest cause may produce an attack, e.g., a medical man entering the room, the act of sneezing, a slight catarrh, the least breath of air, an unusual smell, or a smell inappreciable by others, &c. Owing to the remarkable communication that exists, through the medium of the sympathetic system, between distant parts, the cause may be very remote. Uterine derangements frequently act as a powerful proximate cause; sometimes they are the consequence of repeated neuralgic attacks. Disorders of the stomach and

* In some cases there is no doubt some condition besides the spasm, as thickening of a nerve sheath, &c. Dr. Woakes says that liquor sanguinis is effused from arterioles in the track of the nerve affected.
other abdominal organs, with those in the pelvic cavity, kidney disease, hernia, tumours, wounds, contracted cicatrices, abscesses, ulcers, neuromata, &c., may all cause neuralgia in various parts of the body. Worms in the intestinal canal may give rise to neuralgia about the head and face; an overloaded colon will cause sciatica; suppressed, or suddenly ceasing, cutaneous eruptions, as intercostal neuralgia after herpes zoster, are a not uncommon cause of the disorder; the bulb of a nerve involved in a flap after amputation, or distal branches embedded in a cancroid mass, will often lead to intolerable agony in the nerve itself, higher up. Excessive tea drinking is productive of neuralgia in the stomach—gastralgia—especially amongst manufacturing women in certain localities, as Lancashire and Preston. Malaria is a prolific cause of neuralgia, especially that affecting the face. In these cases the patient has frequently suffered in the past from intermittent fever. Neuralgia having this origin is usually, on account of the easily recognised periodicity, not only more curable, but more rapidly curable than any other.

Diagnosis.—It is usually easy enough to recognise an attack of neuralgia. The tendency to shift its position; to intermit or remit; to ebb and flow; to be sudden and fitful in its advent; the extravagantly acute character of the pain, and the absence of any inflammatory or other local symptoms; the pain being, as a rule, confined to one side; the non-appearance of any appreciable disturbance of the general health; the existence of tender points—points douloureux; the occasional induction of an attack by touching one of these painful spots; the frequent association with a family history of neurotic disorder in one form or other:—these are the main features which are characteristic of neuralgia. It has been confounded sometimes with malignant disease, and operations for the latter have been performed, when the exacerbating pain has been purely neuralgic. Similarly, patients have been treated for simple neuralgia when there was malignant disease. It is now well understood that no part of the body, where sensory nerves exist, is exempt from the disorder. Neuralgia of the liver is by no means an uncommon affection in India. Myalgia (muscular pain) is sometimes associated with neuralgia, and, occurring as it often does in neuralgic patients long after the neuralgia has passed away—it would seem occasionally to be a legacy left by the latter—it causes a great deal of unnecessary anxiety, the patient being apt to fancy that the pain, fixed as it is in one place, is indicative of something serious. Hysterical neuralgia is well known, the hysterical knee-joint of Brodie affording a familiar example. Neuralgia may simulate every known form of disease. Chronic gout and chronic rheumatism are often accompanied by severe neuralgic pain, some
cases requiring for their cure anti-neuralgic treatment only, whilst for others remedies suitable for both are requisite. Some chronic rheumatic disorders are attended by very severe pain, not neuralgic, and only display their true nature when benefit is derived from anti-rheumatic remedies. The pain in some periosteal affections, in scurvy, syphilis (dolores osteocopi), in poisoning from mercury, in chronic alcoholism, in spinal irritation, &c., sometimes resembles the pain of neuralgia; but the diagnosis is usually not difficult.

Symptoms.—Neuralgia is too well known to need much description; and some of its leading features have already been mentioned. The nature of the pain varies considerably. Plunging, shooting, boring, cutting, crushing, burning, dragging, a feeling as if the nerve were being torn asunder or drawn through a narrow ring, are the terms variously applied to it. Pressure may relieve or aggravate the pain. During a paroxysm perspiration often breaks out upon the face of the sufferer, who then sometimes weeps with anguish. One of the most distressing features of neuralgia is, in many cases, the suddenness of its advent. Without any warning whatever, in the middle, it may be, of an animated conversation with a friend, the victim is attacked. He starts as if struck by an electric shock. His face is distorted with agony, and, for a few moments he remains speechless. Presently, there is a complete cessation of pain; the paroxysm is over; the neuralgia is forgotten, and conversation is resumed; when, as suddenly as before, the enemy appears, and the programme is repeated. I went one day to see a neuralgic patient, a civilian of reputation, residing in a hill station in India. He received me with cordiality, coming forward with extended hands from the sofa, on which he had been lying. In a moment, his face, which on my entrance beamed with animation, became the picture of woe, and he crouched back to the sofa, saying that the pain had attacked his hair! I do not think that I ever met with so striking an illustration of the "nervous constitution."

The suddenness, with which neuralgia sometimes visits its victims, keeps them in a fever of apprehension, thus intensifying their misery. In some cases there are preliminary symptoms of an approaching attack; and thus, happily, time is afforded for preventive treatment; in others, there is a sensation of nausea with squeamishness, and the attack remains, as it were, undeveloped.

One sometimes hears it said, "Oh, it's only neuralgia!" Very disagreeable, of course, but unconnected in the individual's mind with anything more serious. A lady, about to consult an oculist for a feeling of fatigue in the eyes, was counselled by another lady to say nothing about the neuralgia, from which the patient
also suffered, as that was a minor matter, which had nothing to do with her complaint! The wife of an Indian official consulted me four years ago on account of neuralgia in one of her eyes. She had been treated for this (supposed) disorder in India. I, suspecting deep-seated mischief, advised her to go to an oculist. She did so. He detected the existence of glaucoma; operated; and, as would probably have happened in any case, she lost the sight of that eye, as well as, subsequently, to a great extent, that of the other eye. Neuralgia must never be thought lightly of; it may be nothing more, but even in that case, serious results, if it be neglected, may follow. But it may also be the indicator of structural changes, or of organic disease.

_Treatment._—Neuralgia is, unhappily, and, I venture to think, somewhat unnecessarily, one of the opprobria of our profession. Many are content to give the temporary relief, afforded by one or other of the numerous pain-killers in fashion; which sometimes do indeed, in incipient or comparatively mild cases, effect a permanent cure. Some believe that the disorder will wear itself out; and but few have faith in drugs, or any treatment that will altogether remove it. Says Romberg, “We possess much hypothetical lumber, and a mass of clumsy empiricisms, . . . and there is only one result that we can safely promise—this is the cure of acute intermittent facial neuralgia by aid of the vegetable or mineral anti-periodics, quinine or arsenic.” And so the disorder, in too many cases, pursues its course; in some instances shortening life;* making it miserable while it lasts; leading to the adoption of habits that demoralise the mind and weaken the body of the individual; and, by rendering the nervous system more and more unable to resist the attacks, systematically and surely aggravate the suffering. It is satisfactory, however, to know that, in very many cases—even the worst cases—of neuralgia, the condition of the patient is capable of so much improvement that the attacks may be diminished in frequency and severity, even if their advent be not prevented altogether. Sufferers are, unfortunately, not very ready to adopt such habits of life as might ensure them partial or complete exemption from the disorder. One often hears it said, “I know very well that if I were to take more rest I should lose my neuralgia, but my business won’t allow of it.” I am constantly applied to for a dose of my specific, as it is called; but,

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* Simple neuralgia does not always shorten life, and it never destroys it, though it may lead to suicide. Thouret (quoted by Rowland) knew a lady of eighty-five who had suffered thirty years. A lady patient of my own, aged eighty, had been a victim to sciatica for sixteen years, and doubtless there may be several such cases.
when I disclaim the possession of anything of the kind and propose a careful consideration of how each day is passed, of what the dietary consists, at what intervals the several meals are taken, and of the general surroundings, the patient is disappointed, and goes. It is a matter for constant regret that, advanced as man is in this nineteenth century in all kinds of scientific knowledge, he should know so little of the house in which he lives. Were it otherwise—if physiology and sanitary science were more generally taught in our schools—several of the diseases from which society now suffers would be banished from its midst. Many parents are careful, when cutting up their children’s dinner, to separate every particle of fat, instead of encouraging them, if (as most children do) they dislike it, to, at any rate, eat a little; by which means the dislike is usually, in time, overcome; whereas by humouring their repugnance, habits of daintiness are engendered, and an important article of heat-producing food withheld from the dietary. It is a remarkable fact that those who suffer from neuralgia, as a rule, dislike fat, and yet it is (for them especially) an essential constituent of their daily food.

The diet in neuralgia should be as albuminoid as possible, with a liberal allowance of oleaginous nutriment, avoiding such of the ordinary adjuncts to our daily fare as rather please the palate than answer any useful purpose in the animal economy. Whole-meal bread, well-cooked potatoes, milk that is rich in cream, eggs (where they agree), fat bacon, &c., should enter largely into the dietary of sufferers from neuralgia. A medical practitioner, who for two years had suffered from neuralgia in the eye every morning from about nine till the early part of the afternoon, one day ate a hearty luncheon, consisting of eggs and fat bacon, and, I believe, repeated the dish at breakfast the following morning. That day there was no neuralgia. Believing it to be a case of post hoc, &c., he continued to eat freely of eggs and bacon, and my informant tells me that he has been entirely free from attacks for the past nine months. Neuralgic patients should live with the strictest regularity, and with uniform intervals between their meals. In many cases paroxysms of pain are apt to occur soon after midnight, when the power of resistance is least. It will often be found on inquiry that, whilst such sufferers eat but little throughout the day, they go supperless to bed. A light, suitable supper in their case becomes a necessity, and it would be well to have something nourishing at the bedside to take during the night. Tea should be banished from the neuralgic patient’s list of drinks. Cocoa, as containing a quantity of fatty matter, is better than coffee, though as the former may cause dyspepsia in some form or other, it is well to take one in the morning—coffee
The Causes and Treatment of Neuralgia.

for preference—and the other in the evening. But the daily allowance of drink of any kind should be reduced to a minimum. Alcohol in any shape should, generally speaking, be eschewed altogether. Doubtless there occasionally occur cases where it is medicinally called for—cases of extreme prostration in which it may be used as a temporary spur, but, even in these, bearing in mind the possible after-consequences, I believe that ether would answer better, as it may be given repeatedly without any ill effects whatever, and with the same prospect of success with which we administer it in the collapse stage of cholera. The mist of ignorance as to the remedial value of alcohol is being gradually dispelled, but there are yet too many who believe, not only in the pain-killing, but nourishing (!) properties of the alcoholic compound which they particularly recommend for neuralgia. A lady of my acquaintance used to take, under medical advice, several glasses of sherry during the day to keep off expected attacks; by means of which her nervous system became greatly shattered, without any relief from her suffering. I was recently summoned to the bedside of a gentleman who, said to be in a fit, was simply intoxicated with champagne, porter, and port taken to mitigate the pain of a series of neuralgic paroxysms, which subsequently returned at the usual time with unabated severity. One continually meets with persons who affirm that were it not for beer at dinner they would assuredly have neuralgia. On careful inquiry, however, it is frequently found that the quantity taken is practically too little to affect the nervous system detrimentally, or to have any effect either one way or the other; and that there is occasionally a twinge of neuralgic pain. On the other hand we have the evidence of persons who, having for years previously been martyrs to the disorder, have been entirely freed from it after becoming total abstainers; taking care, at the same time, to live more generously; eating plenty of fat, giving themselves an occasional holiday, obtaining a sufficient amount of sleep, avoiding fatigue, exposure to damp, and those exciting causes which they know from experience will probably induce an attack. Zoedone, as a drink containing phosphorus, hyposulphate of lime, and iron, is a drink particularly well suited for the majority of neuralgic patients. But it should be taken under the guidance of the medical attendant. Neuralgia of rheumatic origin will, of course, be treated according to the circumstances of the case. The removal of an irritating foreign body may suffice in some instances—a spicula of bone, a tumour, or a decayed tooth, for example;—though teeth are often, alas! uselessly extracted for the neuralgia of whose existence they were quite innocent. To eliminate where necessary, as in the case of worms or an overloaded colon;
to tranquillize and fortify the nervous system; and to break
through the periodicity which is so constant a condition in the
worst forms of neuralgia, are the main indications of treatment
with medicine. It is customary to give quinine, or Easton’s
Syrup — this, where admissible, is an excellent tonic — to
strengthen the system generally; but I would suggest that an
anodyne be added—in moderate quantities, of course—care being
taken that the several functions of the body are as little deranged
as possible. Ferris’ (of Bristol) Nepenthe, a preparation of
opium, is, I think, one of the best anodynes we possess. In
my own practice I am accustomed to prescribe:—

Quinac Sulph., gr. ij.
Acid Sulph. Dil., q.s.
Liq. Potas. Arsen., m. v.
Nepenthe, m. v.
Water, add 3 as.

To be taken three times a day.

Where quinine disagrees I either substitute sulphate of cincho-
nine, or omit that class of tonic altogether. In this last case I give
more of the liquor potass. arsen. Sometimes m. xv. or m. xx.
of dilute phosphoric acid act beneficially. Where Easton’s Syrup
is given I combine the anodyne with it. In anæmic cases iron
is required in addition to removing the cause that led to the
anæmia. Imperfect digestion and assimilation being frequently
the fons et origo of the mischief in such cases, a few (say 8 or 10)
minims of dilute nitro-hydrochloric acid, taken in a half wineglass
of water just before each principal meal, will frequently act like a
charm — improving the appetite, promoting digestion, and
removing the malaise that is so constantly present. Indeed,
whether there be anæmia or not, I find this treatment very
valuable in the majority of neuralgic patients, whose appetites are
apt to be capricious, and whose bodies are proportionately
ill-nourished, In view to breaking through the periodicity of
neuralgic attacks (and periodicity, quite independent of
malaria, may constantly be found to exist, even if not always
very well marked), I usually give the following—

Quinine, from gr. v. to gr. xx.
Acid Sulph. Dil., q.s.
Liq. Potas. Asen., m. x. to m. xx.
* Nepenthe, m. xv. to m. xxx.
Aqua, 3 vi.

* Croton choral and nitrite of amyl are also very useful anodynes, though
the efficacy of the former has been demonstrated principally in facial neuralgia
and dysmenorrhea, and that of the latter where the fifth nerve is affected.
Both are, however, coming into use as valuable anti-spasmodics in any form of
neuralgia. Belladonna, which mitigates the neuralgic pains in dengue better
perhaps than anything else, is worthy of being more frequently administered in
neuralgia—not only locally, as at present, but internally.
The Causes and Treatment of Neuralgia.

a few minutes before the time of the expected attack, where this is known with some certainty; if not, on the first symptom of its approach. The draught will usually stop the attack at once, when, so as to be prepared for a renewed attempt later on, another similar draught should be at hand.* Sometimes the paroxysm occurs in spite of the anti-periodic, but its severity is much mitigated.

In this way, by fortifying and soothing the nervous system meanwhile, and by breaking through the habit of recurring pain with larger doses of the same, or a like, remedy, neuralgic patients may often be completely cured. But, as before stated, medicine alone will not suffice. We cannot, indeed, alter the nervous constitution—that which renders the individual especially liable to neuralgia or other nervous disorders—but we may so improve the general condition that this liability shall be reduced to a minimum. Cod liver oil is invaluable in neuralgia. To diminish the risk of its disagreeing it is safer to begin with a teaspoonful only—or even less, if the stomach should display the slightest intolerance—and to give it the last thing at night, increasing the quantity gradually and with great caution. Messrs. Young & Postan's preparation of phosphorus in cod liver oil —$\frac{1}{100}$ grain of the former to 31 of the latter—called phosphorized cod liver oil is perhaps as good as any, phosphorus being in some cases a desideratum in the treatment. Where cod liver oil cannot possibly be borne, cream, butter, olive oil, or the like, may be substituted.

Electricity—in some cases the continued, in others the interrupted, current—and galvanism are often of great value in the treatment of neuralgia. The brain and nervous system resemble a galvanic apparatus charged for a certain time, and both are sensibly affected by the electrical tides in the atmosphere. Electricity and galvanism are, therefore, amongst the most promising agents we possess for the treatment of certain forms of neuralgia.

* It is worth remembering that where quinine, when swallowed, irritates the stomach, it may be introduced hypodermically with equal, if not greater, effect, and that gr. v., so administered, correspond to gr. xxx. by the mouth. The neutral sulphate dissolves in water—gr. i. to m. xii.—without the aid of acid; an important fact where the skin is irritable.
ALCOHOLIC DRINKS AND NURSING.

By Harrison Branthwaite, F.R.C.S. Ed., Willesden.

"Is it necessary for me to drink ale or stout whilst I am nursing my baby?" is a question much more frequently put to the medical man in attendance now than it used to be in the days that are past, and is another proof of the deep hold the principles of Temperance are taking upon the public mind. This question we, as medical men, ought to be able to answer in such a manner as to leave no doubt upon the mind of the questioner, seeing that it is a matter of vital importance, not alone to the mother and infant, but involving the happiness and comfort of the husband and the home. I am well acquainted with gentlemen who have but one fear in the advent of an addition to the family circle, that is, the ale or stout drinking by their wives, to enable them, as they say, to perform their duty as mothers; these ladies at other times are very moderate, if not absolute abstainers. For years my careful attention has been directed to this subject. It is a long time since I came to the conclusion, which the Lancet now admits, viz., that "if all nursing mothers were teetotalers, it would be far better for the totality of British babies." An admission that ought to be printed in letters of gold, and scattered broadcast, not only throughout the kingdom, but wherever the pernicious custom of drinking exists. What more than this declaration of the Lancet do we want as medical men? What more can nursing mothers want than "the greatest good for the greatest number"? To all inquirers earnestly seeking after truth this ought to be sufficient; but I fear the idea is too deeply rooted to be so easily removed. Supposing for one moment, which I do not admit, that cases do exist in which benefit might result from the use of ale or stout, how am I to know these special cases? What is to be my guide? The Lancet may, perhaps, be able to give an answer.

I should be sorry to say that, as a result of the use of intoxicating drinks by nursing mothers, "the whole infant population is to be regarded as more or less permanently drunk;" but I have no hesitation in saying that the whole infant population, whose mothers partake of these drinks for the purpose of helping them to nurse, is more or less injured by the habit. To this may be traced, I think, very much of the brain, stomach, and bowel irritation, so common in infancy. Very often, when one or more of these conditions have been presented, I have suggested that the ale or stout should be discontinued, and invariably an abatement, if not complete cessation, of the symptoms has fol-
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owed, to return again when the exciting cause has been resumed. A short time ago, a lady—an abstainer—whom I attended in her accouchment, sent for me to see her infant. This lady had been pressed by her friends from the first to take stout; but, acting on my advice; she had steadily refused, and when I ceased attending her she was in robust health, and took a journey of 300 miles at the end of three weeks. On seeing the child, I was told there had been blood with every action of the bowels for two days past. The mother could not point to any error in diet, and I was somewhat at a loss to account for the symptoms. My doubts, however, were soon removed, when I was told that three days prior to my visit, friends (?) had succeeded in persuading the mother to take a pint of stout daily, assuring her of all kinds of good results likely to follow, although at the time she was perfectly well. I ordered the stout to be at once discontinued, did not give any medicine, and in three days the infant was quite well, and has so continued.

A correspondent ("D. H. G.") writing in the Lancet, Nov. 14, says stimulants (?) are to be looked upon as condiments, i.e., something that gives a relish to food, or, what is perhaps nearer the truth, that which gratifies the taste. I fail, however, to follow the reasoning of "D. H. G.," that a glass of ale or stout, taken to increase the relish for meals, will "consequently" aid in the digestion of the food, and therefore is to be "preferred to water, which would make them less enjoyable, and diminish the salivary secretion." I admit that where the habit has been formed a meal might be, at first, less enjoyable without the customary glass of ale or stout; but in the light of science I cannot admit any aid to digestion, or the lessening of salivary secretion as a result. "D. H. G.," however, admits all we want, viz., that it is a popular error to take these drinks with the view of increasing the flow of milk, and that in so doing a sacrifice of quality and nutritious value of the secretion is involved.

I should be glad to know if any of my medical brethren have noticed the difference of the sleeping powers of infants, under the opposite conditions of abstaining and non-abstaining mothers. My experience, based upon personal observation, is, that children of non-abstaining mothers sleep a great deal more than those whose parents are abstainers. This can only be accounted for by the narcotising influence of the alcohol transmitted through the mother, and may in part explain the hereditary transmission of the "drink crave." There is a great tendency in the present day, not only in the upper walks of life, but also amongst the middle and lower class, to avoid altogether the duty of nursing, substituting the bottle and foods of a farinaceous character, altogether unsuited to the due nourishment of the child. Upon
this point I have noticed an interesting and somewhat curious fact, viz., that the refusal to nurse baby invariably comes from those who are not abstainers. I have never known an abstaining mother object, when she had the power, to fulfil her maternal duties. This, I think, points to the effect of alcohol in paralysing the finer sensibilities, thus robbing Nature of sympathy with her offspring.

The whole question of nursing would be a suitable subject for full consideration by the British Medical Temperance Association. An exhaustive inquiry could not fail to elucidate much valuable information, that might afterwards be published in such a form as would greatly benefit the general public.

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**ABSORPTION BY MEANS OF ALCOHOL.**

In the Zeitschrift für Biologie Dr. Tappeiner has published the results of some experiments on dogs, &c., to determine the power of absorption possessed by the stomach. He tied the pylorus with a ligature, and then passed into the stomach, through an oesophagus tube, certain quantities of solutions of known strength. The substances tested were glucose, sodic sulphate, taurin, peptone, and strychnia. He asserts that when these were dissolved in water very little was absorbed, but when the same substances were dissolved in alcohol very little was left. As an illustration it may be stated that while a watery solution of strychnia had very little effect, an alcoholic solution caused death within ten minutes. Chloral in water had little influence, while the solution in alcohol soon caused sleep. The result was, however, considerably affected by the quantity of fluid already in the stomach.

Supposing that these observations are correct, what conclusions are to be drawn from them? In the normal condition there can be no doubt that all these substances are easily absorbed, and do not require the assistance of alcohol. If ligature of the pylorus, by which they are prevented from getting into the intestines, causes such a marked difference, it points to the conclusion that absorption is far more rapid in the bowels than in the stomach. Possibly alcohol may normally be absorbed more easily by the stomach, or it may be that the alcoholic solutions were made of lower specific gravity than those with water only. Whether this be so or not, there can be no object in ordinary cases in using the alcohol. It is, however, alleged
that in obstruction of the pylorus by cancer, &c., there will be
great advantage in using alcoholic solutions, and thus promoting
rapid absorption. If that were the only consideration, it might
be granted; but in cases of cancer, at least, it is probable that
the irritation produced by the food, and especially by the alcohol,
would do more harm than the increased rapidity of absorption
would do good. In such cases the disease makes far less progress
if left without any irritation, all food being administered in a
digested condition by the rectum. In other cases of obstruction,
also, this plan will answer all practical purposes, and we, there-
fore, cannot say that the discovery, granting the absence of all
fallacy, is of any real value in the treatment of disease.
**British Medical Temperance Association.**

Registered or registerable medical practitioners are admitted as members on condition of personal abstinence from all intoxicating liquors as beverages, and payment of an annual subscription of not less than five shillings. Registered medical students who are total abstainers are admitted as Associates on payment of an annual subscription of half-a-crown.

Members who have not paid their subscriptions will much oblige by forwarding them to the Honorary Secretary.

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*Enfield, September, 1882.*

**J. J. RIDGE, M.D., Hon. Sec.**

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**QUARTERLY MEETING.**

The Quarterly Meeting of this Association was held on Wednesday afternoon, 22nd November, at the rooms of the Medical Society, Chandos Street, Cavendish Square; Dr. Richardson, F.R.S., the President, was in the chair.

After the routine business had been transacted, Dr. J. James Ridge, Hon. Secretary, read the following Paper, which had been prepared by Dr. T. D. Crothers, Superintendent of Walnut Lodge, Hartford (Conn.)—

**INEBRIETY CAUSED BY MENTAL INJURIES.**

From a clinical study it will be found that the use of alcohol in inebriety is in many cases only a symptom, or one of the many causes that develop positive disease. It is proposed in the following paper to show that psychological traumatism is often an active cause of inebriety, which in most cases is not recognised. The early history of drinking is often a period of great obscurity, and the patient himself will have no clear idea of the conditions and causes which impel him to use spirits. His opinions are often misleading and never reliable unless confirmed by other evidence. If he has been taught to consider inebriety a vice and sin, his ideas of the early causes will be governed by this impression. If he has no fixed theories on this point, he will usually have some notion of misfortune and trouble, and consequent despair, associated with the early periods of drinking. From a clinical study the views of the patient may be of value as intimations of his present mental state, and the possible mental conditions which have obtained in the past. In all cases the tendency to exaggerate and prevaricate, without any ascertainable reason, must be considered in the problem of diagnosis. There are two distinct periods in all cases of inebriety. The first, beginning somewhere in the past, unknown and
not noticeable to ordinary observers, and terminating with the first excessive use of alcohol. The second, starting from this point and noted by the occasional or continuous excessive use of spirits terminating only in death or recovery. This period comes under the observation of friends and relatives, and can be accurately studied, and is supposed to include the entire field of observation. Inebriety begins in the first period, and breaks out in the latter. This first period is not studied, it is in the outer circle, the penumbra, or neurotic stage. The second period is the umbra, and inebriate stage. In this first or neurotic stage, the causes and conditions are as varied and complex as that which produces insanity. Notwithstanding their obscurity, they often present distinct intimation of inebriety far in advance. Every case will be found to come from some special condition of change or departure from healthy activity in the organism, in which both the function and structure are involved. Even in this early stage, a certain progressive march may be noted, often broken by long obscure halts, or precipitous strides, changing into varied forms and manifestations of disease. This neurotic stage will be marked in most cases by nerve exhaustion, instability of nerve force, and nutrient perversions and disturbances. Not frequently delusions and hallucinations about foods and drinks are unmissable symptoms. Often persons who have never used spirits, and become fanatical in their efforts to reform inebriates, are in this stage, and sooner or later glide into the next one. These are the general indications, associated with innumerable minor hints and symptoms, that follow from all the degrees of inheritance, occupation, surroundings, and all conditions which make up physical and mental health. Traumaticism may bring the patient into the first stage, or into the second at once. Or it may leave him susceptible to every physical state and surrounding. Psychical traumatism, or injury from mental agitation or powerful emotions, as a cause of inebriety, may be considered from two points of view. First, as a direct cause of inebriety, and, second, as an indirect cause, by developing conditions which rapidly merge into this disorder. As a direct cause the following case is a good illustration:—

A merchant previously healthy and temperate, forty-five years old, with no neurotic inheritance, was returning from New York city (where he had been on business), on an evening train on the Hudson River railroad. While moving at great speed the cars jumped the track, and ran along on the sleepers for some distance before they were stopped. The sudden alarm, crashing of the windows, and profound agitation from fear of death, produced functional paralysis, and he had to be lifted out of the car. He was taken to a farmhouse, and after a few days was able to go home, but complained of exhaustion and neuralgic pains all over the body. He began to use alcohol to intoxication, and could give no reason why he drank. This continued for three years, until death from pneumonia, brought on by exposure while intoxicated. Notwithstanding all the efforts of himself, relatives and family, he drank precipitately to the latest moment of life. He began to drink soon after the injury, calling for it with great urgency. At first it was freely given, until he was so often under the influence that it had to be removed.

The second case of this character was that of a clergyman who was in good health, a man of strong temperance scruples, and very correct in all his habits. The sudden death of his wife, from a railroad accident, threw him into a low form of nervous fever, that lasted for two weeks, after which he began to use spirits in large quantities. He claimed that he needed it for exhaustion as a tonic, and fully justified his use of it to intoxication. From this period he drank at all times and places, giving no cause or reason for its use except that of a medicine. He was soon discharged from the church, and became an outcast and inebriate of the lowest grade. He is now serving out a sentence for assault.
in state's prison. His inebriety began directly from the shock following or caused by intense sorrow and grief.

In both of these cases there was a degree of mental and physical vigour that gave no indications of this sequel, or any neurotic disease. There was no heredity in either case that was prominent, and the inebriety was purely from psychical traumatism.

There is another class of cases which not only have a general neurotic inheritance, but have hints of defective nerve force long before traumatism brings on inebriety. The following cases bring out these facts clearly:

A lawyer, aged forty-four, who was a temperate hard working man, was made unconscious by a stroke of lightning, and from recovery began to use large quantities of spirits at night. He became an inebriate, and died three years after from delirium tremens. His grandfather on his mother's side died from inebriety, and two uncles were inebriates. His mother used spirits freely as a medicine for many years. Here it was clear that an inebriate diathesis existed, and was only developed or exploded by the traumatism.

A farmer, who was temperate had suffered some years from nervousness and general hypochondria, was greatly excited at the burning of his barns, supposed to be the work of an enemy. He was laid up in bed for two days, then began to drink brandy, and was intoxicated from this time to death nearly every day. There was no clear history of heredity, but his nervousness and hypochondria seemed to follow from some disorder which began at puberty. Some nerve defect had lessened the vigour and integrity of the organism, and the traumatism followed, bringing out inebriety.

Another case has lately come under my care, of a merchant, who had been well and temperate up to his business failure. This came upon him unexpectedly, and caused great mental anguish, followed by impulsive inebriety. He could give no reason for his drinking, and simply said it was impossible to abstain. His history for some years before the failure, indicated chronic dyspepsia and general perversion of nutrition, although he had conscientiously refrained from all use of spirits, yet his capricious nutritive impulses exploded readily into inebriety from the action of traumatism.

There are many reasons for supposing that all cases of this character, where dyspepsia and nutrient disturbances exist for some time, are peculiarly susceptible to traumatism, particularly of physical character. The same may be said of a large class who have inherited unstable brain and nerve forces, either from inebriety, insanity, or any other organic disease. They are all more susceptible to traumatism and its results.

All these cases proceeded directly from psychical traumatism. Whether the traumatism broke up the co-ordinating nerve centres which are supposed to govern the sensation of thirst or produced some general exhaustion of these and other centres which found in alcohol a sedative, cannot at present be determined. The desire for alcohol in all these cases is only a symptom of nerve degeneration, which has been produced by traumatism. In the second class of cases where psychical traumatism is the cause of inebriety indirectly, the history and symptoms are always more or less obscure, and require careful study. Yet these cases are undoubtedly numerous, and will in the future attract much attention.

The following cases are fair illustrations:

A banker in middle life, in good health, and strictly temperate, was greatly shocked at the death of his father, from heart disease, while at the table. For several weeks he suffered from insomnia, and could not concentrate his mind on anything, was nervous, and complained of dull headache. He was under treatment for a long time without any positive results. Nearly a year after he suddenly drank to intoxication, and from this time went rapidly down to hopeless inebriety. There was no heredity and no ill health up to this time. Some shock had been sustained by the nerve centres, which from the ap-
Inebriety caused by Mental Injuries.

A lawyer, whose father had suffered from general paralysis, suddenly became an inebriate at twenty-four years of age, under circumstances and surroundings that were the most adverse. After a long study it was ascertained that he had been profoundly agitated from the refusal of marriage with a lady who soon after married a rival; that for a long time he was treated by a physician for threatened brain fever, and that he never recovered his former vigour and cheerfulness. Three years after he married into a fine family, and had every agreeable surrounding possible, when suddenly he rushed into a low saloon, and drank to intoxication for the first time. He seemed to try and help himself, but every day sank lower and lower, and was finally divorced from his wife, and cast adrift a hopeless incurable. The same psychical causes were at work, beginning in the shock from disappointment, and slowly slumbering along until inebriety developed.

A farmer, with no heredity of nerve disease, temperate from principle and a hale vigorous man, was greatly prostrated by grief, while on a visit to the army to find his son killed in battle. For five years after he complained that he did not feel well, could not sleep soundly, was more easily exhausted than ever before, and suffered from neuralgia and changing sensations. One day in the harvest field he left his work and drove off to a distant city, drinking to intoxication. Ever after he drank all the time, with every opportunity and occasion. His excuse was that he had a tape worm, which had been taken into the system when he was in the army. Like the other cases the effect of grief and consequent shock produced some permanent alteration of both structure and function ending in inebriety. The cases were also noted by the absence of any stage of moderate drinking, and the sudden onset of the excessive use of alcohol. Quite a large class after some form of psychical traumatism have a stage of moderate drinking, which very commonly ends in impulsive inebriety, that comes on unexpectedly. The following are such cases, whose origin and history are very clear in many instances.

A strong temperance advocate, and lawyer of culture in vigorous health, was involved in a stock company that ruined his reputation, by an accident in which he was not in any way guilty. He suffered so keenly that he was treated for fever, which lasted some weeks, then he resumed business. Later he began to use beer in moderation for debility, and this in a year or more merged into stronger drinks, at night. Another year and he suddenly began to drink to intoxication every day, soon losing his business and becoming a hopeless incurable. From the time of failure of the company and his reputation, a steady decline of mind and body was apparent. No special symptoms could be recognised that pointed to other than general failure of his former vigour and pride of character. Some change had taken place, and something was wanting to make up health and integrity of organism.

A second case was an engineer, with no history of heredity, and a man of fine health and thoroughly temperate. While at his work in the field a gun in his hands was accidentally discharged, killing an intimate friend and brother engineer. He was greatly depressed and melancholy for months, at times would burst out into tears, and be unable to work; then he began to use spirits at night to bring on sleep, and a few months after he drank to excess, and was obliged to give up his business. He died a year later from excessive use of spirits.

A third case equally free from all entailing of disease, and well up to the time of great exposure and excitement from the loss of his mill by a freshet, began to use spirits for exhaustion and debility, and a few months later was a pronounced inebriate, drinking all the time. It may be asked if these cases gave indications of inebriety following the traumatism? The answer is that the period of moderate
drinking showed this tendency clearly. It could not be an accident, for all these cases were men that were fully aware of the danger of such a course, and would not enter upon it unless impelled by a diseased impulse which they could not control.

It is exceedingly difficult for those not practically acquainted with business life to understand the constant strain and excitement which follows all business and professional activity. From the poorest labourer to the millionaire, and professional man of the widest influence, there is a hurry and excitement, and a want of rest, that is steadily preparing the soil for all forms of nervous diseases. The rivalry and intensity of school life, follows the child to the grave. In business, in a profession or farming, it is the same struggle for prizes; gathering up all the energies of body and mind and concentrating them in one effort, if they fail turning to some other field with the same intensity and courage.

A prominent professor in a leading medical college, and author of note, has been a teacher of languages, a merchant, an inventor, a mining engineer, all within a career of less than half a century. These extreme changes of life and occupation strongly predispose the person to states of exhaustion, or as Dr. George M. Beard, of New York city, a distinguished neurologist, writes, "We are a nation of neurotics and of which many and complicated nervous diseases are constantly springing."

Psychical traumatism will appear oftener as a prominent factor in the causation of inebriety here than elsewhere. The following cases are typical of a class that represents one extreme of American life, the speculators and brokers. A broker with no history of heredity, healthy and temperate, who has made and lost two fortunes, and was rich again, entered into a pool and sunk every dollar. His wife was taken ill, and he was forced to leave his old home, and have her taken to the hospital, where she died soon after. He began to use spirits to great excess at once, and is now a chronic inebriate. The shock from the last misfortune brought on inebriety, and although he makes many efforts to recover, always drops lower from the struggle.

A banker who had made a large fortune became a speculator and went into Wall Street. He was very correct in all his habits of living and was careful of his body. For ten years he both made and lost large sums of money, and was under the usual strain of men who embark their fortunes in one venture. His son, whom he expected to follow him, proved a defaulter, and was sent to state's prison. The father began to drink to great excess at once, and died after three months of extreme drinking. In all cases of this character there must be a condition of great exhaustion and general debility which gives way under the last shock of traumatism.

The following cases represent another extreme of life in this country. A farmer, who had for twenty years worked early and late, eaten poor food, depriving himself of many necessities and comforts of life, that he might own his farm, was plunged into the deepest distress on finding that the title was wrong, and all his labour had been thrown away or lost. He drank at once to excess, and a year after was taken to an insane asylum. He was discharged in a few months, but continued to drink.

A bookkeeper worked night and day in an absorbing passion for wealth, neglecting to rest and taking but little outdoor exercise. His position and investments were all swept away by a financial storm, and he became an inebriate at once. Later he was a bar-keeper, then was sent to prison for some crime. The usual explanation would be that these cases drank from despair and discouragement, but a general study will show a state of psychical pain and agony for which alcohol alone acts as a sedative. It very commonly appears in a study of cases of inebriety that the patient will refer to some event of life, or disease, from which he is confident that he lost some power or force which he has never regained. They do not come out as reasons for his drinking, but as facts
Inebriety caused by Mental Injuries.

One man gives a history of overwork under conditions of great mental excitement, from which he has never recovered his former vigour. Years after he becomes an inebriate, but he never traces the connection between the former overwork and the inebriety. A careful inquiry will show many hints along this interval (which may be years) that refer directly to this event, showing that inebriety is but the result of degenerations which began there. In another case, a man suffers from some profound grief and sorrow, which at the time breaks up his health, and for a long time after he is felt in general debility and weakness. Years go by, and suddenly he drinks to intoxication, and is an inebriate at once. No good reason can be given for drinking, and possibly no stage of moderate use of spirits precedes the inebriety. To himself and friends a degree of ill health has been recognised from the time of his great grief, and to the physician who can study closely this interval, there will be found nutrient perversions, neuralgia, eccentricities, and nameless indications of a coming storm.

A very large class of cases have in the past suffered from some form of disease, from which they have recovered with an entailment of debility, and a want of something that cannot be defined. They are fully conscious of diminished power, of change of vigour and force. It may be they do not sleep as naturally, and do not get the usual rest; or they do not recover as quickly when exhausted, cannot digest food as thoroughly, have dyspepsia from slight causes. They are more sensitive than before, emotional and excitable with every event that is irritating.

In one case a man has a severe pneumonia, with a tedious long convalescence. After recovery a change of disposition and character is noticed, and a year or so after he begins to drink spirits, and soon becomes an inebriate. Or another case, where a man recovers from typhoid fever, and for a long time exhibits marked alterations of habits and character, then suddenly or gradually becomes an inebriate. There can be no doubt that inebriety originated in the traumatism following the diseases in these cases. Some special exciting cause favoured its development, or possibly the injury done to the nerve centres would only manifest itself in this way. The first causes are traumatic, following the diseases or lesions which take place, particularly notable in the complex range of psychical symptoms that are seen. The integrity of the organism and function has been impaired, and from this point disease and diseased tendencies are developed.

These cases are found in every community, and of course do not become inebriates, but like a large class of eccentrics are on the border line, or inner circle shading into inebriety or insanity. A large number of persons engaged in the late civil war who suffered hardship and malnutrition, became inebriates years after, following the psychical and physical traumatism received at that time. The effects of commercial disasters, of bankruptcies, and panics in Wall Street, can be seen in inebriate or insane asylums. In the asylum at Binghamton, New York, for inebriates, at one time were eighteen cases whose inebriety could be clearly traced to a great money panic in Wall Street known as the "Black Friday." Many of these cases were purely from psychical traumatism, others were already in the dark circle close to inebriety, and needed but a slight cause to precipitate them over. Political failures are also fertile fields for the growth of inebriety, and the action of psychical influences. Annually a large class after the close of a campaign find themselves literally inebriates, and if they have money go to water cures, inebriate asylums, or to the far west, and begin life again. The inebriety is often of the paroxysmal or dipsomanical type, with free intervals of sobriety, that give renewed energy to the delusive hope that recovery will follow the bidding of the will. A class of moderate or occasional drinkers are always more sus-
ceptible to these influences than abstainers. This was marked in an instance where three men, two moderate drinkers and one abstainer, partners in business, with equal capital, lost it all in one night. The abstainer recovered and resumed again, the moderate drinkers both drank to excess after, and died inebriates. It may be stated as a rule that moderate drinkers suffer more frequently from psychical shocks of every form, and are more likely to become inebriates from such causes. The inebriety that follows directly or indirectly from psychical traumatism, differs in natural progress and history from other cases. The physical degenerations are more pronounced, the heart and liver take on organic disease quickly, and the mental symptoms are prominent. In some cases the course of the disease is paroxysmal, and the mental degenerations are suspicious of what is called moral insanity. As in the following: A commercial traveller in good health, and a man of character, became an inebriate dating from a steamboat accident in which he was greatly alarmed, and barely escaped being both burned and drowned. When not drinking he planned and executed deceptions, cheated his employers, and engaged in a course of crime and villainy that was without shrewdness, and entirely foreign to all his past history. He was sent to prison and died from consumption. In another case a merchant, after the onset of inebriety from the same psychical influences, suddenly became a gambler, and frequented the lowest places of this class. In the treatment of these cases, where the previous history has been concealed or not ascertained, the impulsive boasting and foolish prevarications, and efforts to cover up and live a double life by pretending to use all means for recovery, and steadily thwarting them, are often clear hints of psychical traumatism, which a more accurate history confirms. Want of space prevents us from illustrating this subject further. Any general study of inebriety will point out this factor of traumatism as prominent in many cases that are now unknown. The following conclusions may serve as a guide to other studies in this field, or as hints of the rich mines for clinical and psychological investigation awaiting future discovery.

1. The injury to the nerve-centres from psychical traumatism is the literal switch or point of departure from the main line, from which all subsequent disease and symptoms of change and perversion can be traced and studied.

2. The most prominent early symptom is exhaustion, or neurasthenia, which goes on progressively, manifest in more complex deviations from health, and general functional disturbances.

3. This may explode into inebriety at once, or appear in moderate drinking, which will always end in inebriety. The type of this craving will differ from others in the extreme mental degeneration which follows.

4. The prognosis and treatment will differ materially, depending on a knowledge of these facts, and will present indications that are absolutely necessary to know, in the proper management of the case.

The discussion was opened by Dr. Norman Kerr, who said: I am sorry we have not a much larger audience—especially of outsiders—because this is a subject that ought to concern even medical men who are not abstainers more than those who are, for this reason:—There are many men who do not see their way to join our ranks and practise total abstinence, and who believe they cannot become abstainers, who yet are anxious to do everything they can in the cause of temperance, and particularly to spread a proper knowledge of the truths upon which such a reformation should be based. Now, if these non-abstaining friends had had the slightest idea of the great value of this paper, surely many of them would have been here to-day to give us the benefit of their opinion upon it. I am very glad, however, that we have had the opportunity of listening to this paper, because it contains a great deal of suggestive matter, and, at the same time, a great deal of sound
philosophy and sound truth. It does seem a shock all at once, after our great moral and temperance reformation, to be told by an American physician that a great many of these cases we have been hammering at only on the basis of voluntary amelioration are a necessity from the physical condition of the person; but it seems to me that the thing is absolutely proved by our own observation of the cases of habitual inebriety. I personally see cases every week in which the people are evidently to my perception as clearly suffering from a physical, and therefore a mental, disease as any patient who has gout, rheumatism, small-pox, or fever. I do not mean to say that it is impossible with some to recover. Supernatural power may enable one to rise above the flesh, but I am certain that I do see cases in which to all human appearance there is no hope whatever left for reformation or cure for habitual inebriety unless they are put in circumstances, of their own accord or by compulsion, in which for a time they will not be under the temptation from alcoholic liquors. Perhaps under those circumstances their system may by and by recover its tone, their will-power become strengthened, and with proper treatment something may be done to enable them to listen with understanding to the message of the Gospel. Of any moral reasoning whatever they are at present incapable. Some of these cases, both amongst women and men, and particularly amongst clergymen and doctors (of whom I see a great many when in this condition), remind me of certain other cases I meet with in the practice of my profession. I get a dozen cases of scarlet fever or typhoid fever, all of which respond to the advice, to the physic, and to the care I give them, but in the thirteenth case— all the doctors on earth, all the physic made and all the nurses trained do not arrest for one moment the progress of the patient to the grave. The patient seems to be dead to all medicaments and every hygienic means used for recovery. In the same way it seems that there are cases of habitual inebriety that, humanly speaking, are dead to everything we can do. We can make no impression with medicinal or moral restoratives. They run the gamut of the Salvation Army, the Blue Ribbon Army, and all the religious and social movements of the times, but there they are in the mire at last despite all that can be done. I know a case at this very moment of a clergyman—and there are very few clergymen in London who do not know of this case, because it has been before the police-courts repeatedly—this clergyman has been in nearly every inebriate home, subject to every kind of moral and religious teaching, and yet without avail, though he is an accomplished scholar, speaks both Greek and Hebrew. He is only a type of a great many others I have seen. Most of his old friends, who have done so much for him, won't see him now, or have anything to do with him. Now this is the peculiar value of this paper—that it will open the eyes of the British public, and especially of the religious classes, to the fact of which they seem in a great measure to have been altogether ignorant in the past, that there is something needed besides moral and religious measures to restore inebriates. We know that a great many inebriates are subject to moral influences, and by a strong exercise of will, perhaps looking to higher sources, are enabled to abandon their habits, go on prosperously, and become good temperance advocates and respectable citizens; but I hope that the Christian public in this country, which is doing so much for the reformation of the drunkard nowadays, will make that movement of theirs really effectual and permanent by taking into account that there is another aspect than their own, viz., the physical aspect; and that as all the religion and all the morality in the world cannot give back to a man a leg that has been taken off, or a tooth that has been extracted, so neither can it restore his brain, his nervous system, his will and his muscles to the same condition that they were in before they were altered by the action of
alcohol. In other words, no mental or spiritual agency can obliterate or efface the footprints of alcohol upon the brain and nervous system. I am, of course, only speaking of certain cases which completely baffle us. With regard to cases of mental shock, how many do we see? I will mention one or two that I know. A gentleman of forty-six years of age, who suddenly lost his wife from heart-disease, and to whom the news was brought very unexpectedly, from being a most sober man at once became a drunkard, and died in that state. I knew a medical man thirty-six years old who committed an error in diagnosis in a critical case, and it preyed upon his mind so much that he took to excessive drinking till he died. I know another man, a near connection of a most illustrious name in science. He was thirty years old, and was a very hard student. He was working for a prize after he had graduated, and was disappointed at not getting it. The result was that from perfect sobriety he launched into excessive drinking, and within a few months committed suicide by taking prussic acid. A farmer, fifty years of age, fell on his head from a break and was insensible for some time, and from being sober and thrifty became drunken and extravagant, and died from intemperance. I well recollect a local preacher, a farmer of forty-three years of age, a steady, sober man, but, his wife having died, his nervous system was so broken down and so worn out by the care and devotion with which he tended her, that on the day of the funeral he had to be carried into the mourning carriage. He afterwards burst out into drinking, and the last I heard of him was that he was an habitual drunkard. I have also in my mind the case of a young gentleman, age twenty-one, who, I am sorry to say, suffered severely from syphilis, which affected his nervous system. I fear this has to do with many of the cases of alcoholic excess with which we come into contact when we get at the bottom of them. I have seen several cases in which I am sure that if it had not been through the depressed state of mind caused by syphilis, there would not probably have been the descent into drinking. This young gentleman’s system was very much debilitated, and he was greatly distressed at the idea of his friends becoming acquainted with his state. In the end he took to drinking until he died. I knew another young gentleman who committed suicide one day when he happened to take too much liquor, his drinking arising from neurasthenia (nerve exhaustion). With regard to sudden mental shock, how often do we find it lead to drinking! A young lady, who is now dead, at twenty-four years of age was to have been married. All was to apparent certainty arranged. Everybody—the clergyman, the bride, and so on—was in attendance except the bridegroom, and this unfortunate girl, as good and excellent a being as ever I saw, and who did a great deal of good in the parish and was beloved by her friends, took to drinking, and finally died of alcoholic pneumonia. A purser on a steamer crossing the Atlantic, twenty-two years of age, a very steady, sober man, not even a smoker, did something careless, but not criminal. He was discharged, and the shock at once started him off—as the paper so well put it—the main line of sobriety and shunted him on to that of drinking, the result being that he drank till he died of alcoholic phthisis. Another case connected with marriage. A clergyman whom I knew, thirty-eight years of age, married very imprudently—that is to say, in haste. The young woman was not satisfied with her bargain, and before a week was over she left him. The result to him was that from being a total abstainer he became a very heavy drinker, and is now really a drunkard. There are a great many cases of broken-down nervous force—those, for example, of students, clergymen, and nurses, the latter especially. After nurses have been a week or ten days incessantly nursing a small-pox or typhoid fever case with their minds constantly on the stretch—it may happen that all at once they
have given way to excessive drinking and the habit has been set up, I will not detain you any further now, though one's mind is so full of cases of this kind that they would bear out almost every point which Dr. Crothers has so lucidly and ably put before us. One of the most beneficent operations of this Association of ours would be to set about endeavouring to enlighten the public and to educate the Christian mind of this country to see habitual drunkenness as it really is, its actual and manifold causes, and the diverse methods of dealing with it, so as to cure the unhappy victims whose presence amongst us we all deplore.

Dr. Gray said he was quite prepared to endorse everything that Dr. Norman Kerr had said. As was well known, he had had considerable experience of habitual drunkards, and received them for curative purposes into his house. He had at present as inmates a clergyman and a solicitor. The clergyman was a most estimable man, the rector of a parish, and he had an excellent wife—one of those rare women that one met with in the course of life. She died about two years ago, before which the clergyman said he never drank but socially—certainly not to excess—but since his loss he had been continually sipping. He was brought to his house some time since by his son, quite emaciated. He had now been in his house a little more than three months, having fortunately placed himself under the Habitual Drunkards Act. He was continually saying that he wanted to get back to his duty. He had been in such a state as to be unable to understand anything for two minutes together, and as to finding any particular room without assistance, he could not do it. Even now he could scarcely remember anything for five minutes together, but, notwithstanding, had written to his bishop's secretary to allow him on probation to resume his work. He, however, was totally unfit for it, although it was quite likely that in the end he would recover. The other case was that of a solicitor, who married some three or four years ago. He had had syphilis, but on the advice of a great authority was told that he might marry. After marriage secondary symptoms appeared, and, as might be imagined, this was a great shock to him. It was really the cause that led him to excessive drinking, but he could not get his brothers and friends to believe him. He (the speaker) quite believed that this was the truth. They sometimes found men lost to all feeling, but this was a man of very great feeling. He was sent to him, placed under the Act, and was doing remarkably well. He had patients from all parts of England, but he regretted to have to say that there were some so-called inebriate homes where the treatment was such as almost to ruin rather than cure the intemperate patients. There was one in Scotland where it was positively the custom to give the patient on going away a bottle of whisky—the object being to have him returned. Therefore he concluded that there was no real trial of what could be done. His house was made for the patients a home, and they all lived together as a family. They were required to go to church or chapel at least once each Sunday. He had had good accounts of patients who had left him, but the great object was to get them to place themselves for a certain time under the Act.

Dr. Charles R. Drysdale said there was much in the paper that was most instructive and suggestive. Although a vast deal of the disease and death caused by alcohol were simply due to the consumption of it as an article of diet, it was still observable that alcohol was one of the agents which carried off those whose mental faculties became weakened by some sudden shock, and were thus made unfit for the constant wear and tear of what had recently been well called the "struggle for existence." In addition to hosts of cases which might be narrated of persons whose morale was not strong enough to resist the temptation put before them by alcoholic drinks, there was also an immense destruction of life caused
among those who, despairing of their powers to cope with the abler members of the society into which they were born, took to alcohol in order to drown the agony of their constant attempt to keep their heads above water, and thus committed true suicide. In a country like Germany or Great Britain, where the struggle for bread was so fierce, and when the age at death of the richer classes was as high as fifty-five years, whilst among the artisans it was but twenty-nine, a little more than half, it was clear that tens of thousands of unfortunate persons must exist who were unable to maintain themselves in the position of society in which they were born, and who, desperate at the dismal prospect of sinking into that strata of society where life is so hard and labour so incessant as it was among the poorer of the labouring classes of this day, ran to the most easily obtained narcotic to banish, even for an hour, their feelings of poignant suffering and despair. He cited cases of gentlemen of education and promise who had vainly tried to maintain their position, but failed, and then were heard of no more until their death from drunkenness was announced. Dr. Drysdale concluded by expressing an opinion that, in the case of inebriates in homes, compulsory attendance at public worship was undesirable, and was likely to defeat the object with which it was insisted upon.

The President: I quite agree with the remark that this is a paper which should interest every member of the medical profession, whether he belongs to our ranks or not. The first point that occurs to me in the discussion is this: admitting all the facts—as admit them we must, for I could adduce case upon case just as Dr. Norman Kerr has done—that this shock of which the learned doctor speaks is a cause of persons taking to drink, the question is whether those persons are all predisposed before they begin to drink, either from having themselves become drunkards or from their ancestry having communicated to them the desire to resort to that kind of relief. If they have been drinkers themselves, and have been habitually attached to drink, and become actually under the influence of drink—and I presume a good many have been so—then it is very easy to understand why they fall back upon it under these emergencies. Very often in the past generation, a generation which we represent as men, in the boy life of that generation boys were taught to take an excess of drink; and they, without knowing it actually as a harm, became habituated to the influence of alcohol, and in the early days of their nutrition and their growth were so possessed by the action of this agent that they afterwards, though with the maturity of knowledge and wisdom stealing upon them, still were affected by it, and then when the grief came, having been as it were once affected and lost their mental balance, they have fallen back upon that to which they were accustomed. I do not think this is applicable merely to alcohol. Something of the same kind has struck me about syphilis. I do not know whether Dr. Drysdale, in his large experience, has observed these phenomena, but I should think he has. Now whether these drunkards who have been treated by Dr. Crothers have always been temperate does not appear, and if themselves temperate, I should like to know whether their fathers and mothers had not been so affected that they—the offspring—have a tendency by inheritance to this change. If they have not this tendency one way or the other, and if it be true that a person in perfect health can by mental shock be made to take alcohol as described, matters are very serious indeed, but I do not think so. The only way in which I can account for that is, that a man meets with a great shock, and, by mere custom or observance of other people, becomes from that moment a drinker and afterwards a drunkard. I can imagine him starting in that way. I think I have seen an instance where a man has gone through a great affliction, being persuaded strongly by his friends to take a glass of wine. I have seen a woman persuaded in the
same way, and I think I have seen in one or two instances some made drunkards, but that is not quite the same sort of argument put forward in this paper. Men in moments of mirth are made to take liquor, and afterwards sometimes become drunkards, but the class of cases spoken of here are cases of persons where the effect of alcohol has already been pronounced in the body. I strongly agree with Dr. Kerr as to the importance of taking a physical view of these conditions. I am quite sure that all emotional and exciting attempts at curing this disease are only more likely to lead to an increased condition of it. The world outside medicine and largely the world inside it too (very few medical men are paying serious attention to it) require to be completely reformed in view in regard to the treatment and care of habitual drunkards. I am sure that Dr. Kerr has not at all exaggerated that point. He has only put forward what is simply truth. When these cases are fully developed none of the agencies which we possess, and none which the religious world possesses, seem to be of service except to take the victims absolutely and entirely out of reach of the agent which has caused the mischief. It is astonishing what a little thing will influence men. The mere fact of fear that some mischief will come from abstinence is enough in many cases to drive men back to intoxicating drinks. A gentleman under great religious emotion at a meeting made up his mind to abstain, and he has abstained a fortnight. A friend met him who is fond of his glass and said, "How bad you look." Thereupon he flies to me and says, "Is it possible that I am entirely and absolutely changed? I have not slept at night, I am in a state of the greatest fear and alarm, and I feel changed." I did my best to reassure him, and on the following morning he was somewhat better. He, however, has an alcoholic constitution, and will very likely fall back, in fact, I think he is as certain to go back as that the sun will rise to-morrow morning. The President concluded by saying that he did not think compulsory attendance at church would do any good, but rather the reverse; and by proposing a cordial vote of thanks to the reader of the paper, which was heartily agreed to.

Dr. Richardson said that at the next meeting he might have something to say about "Alcohol as an Antiseptic," and Dr. Kerr will probably give some information as to the Dalrymple Home.

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Miscellaneous Communications.

DISEASES PRODUCED BY DRINK.

By A. Emrys-Jones, M.D., Surgeon to the Royal Eye Hospital, Manchester.

In delivering a lecture on the above subject, I confess my bewilderment at the task I have undertaken, for when I review in my mind the different causes of disease in the human body, drink heads the list, and is either the chief cause, or a very important factor in the great majority of them. Let me remind you that I mean by drink any of the ordinary beverages containing ethylic alcohol, as this is the prime agent of destruction and deterioration in them all. The proportion of it in various drinks varies greatly; thus beer and claret contain only from 5 to 10 per cent., whilst whisky,
brandy, &c., contain 50 per cent., or one-half their volume. It would be a very interesting question to discuss whether drink, which costs the nation annually about 120 million pounds, really renders any equivalent service; but this does not lie within my province to-night, and I will merely state my own opinion, based on close study and careful observation; that I consider it a great waste of money. Alcohol undoubtedly is valuable as a drug if carefully prescribed in suitable cases, but it is not a food, inasmuch as it does not renew, repair, or build any structure, and it reduces the animal temperature.

For the better comprehension of how drink produces different diseases I will briefly describe its physiological effects in the healthy body. As soon as it reaches the stomach it is rapidly absorbed into and circulated through the system along with the blood in its ordinary course to the right side of the heart, then to the lungs, where it is exposed to the influence of the air, then back again to the left side of the heart, and through the large artery called the aorta, into the general system, so that it comes into close contact with every minute part of the organism. A certain amount of it is exhaled with the breath; some eliminated through the skin in the perspiration; some, if large quantities have been administered, may be detected in the urine. The greatest part of it, however, cannot be accounted for; it most probably forms new compounds, or is broken up in a way which scientific investigation has not yet demonstrated. Its effect on the blood itself in very small quantities cannot be detected, but in large quantities the red-blood corpuscles are altered in shape, and have a tendency to run into rolls and unite. In this way there is a decided interference with the supply of oxygen to the tissues, as these corpuscles are the oxygen carriers. When they become united into rolls their course through the minute circulation or capillary vessels is arrested, and this again gives rise to stagnation, and, if of frequent recurrence, to disease. The first effect noticeable when drink is taken is a great amount of vascular excitement, as evidenced by the blush seen on the face of any one that has partaken of even a fairly moderate amount. It causes the heart to beat more quickly and more forcibly, and is in this sense a stimulant. From experiments most carefully conducted by the late Dr. Parkes, we learn that the heart, stimulated by alcohol does an enormous amount of extra work, and in so doing becomes badly nourished, enfeebled, and unable to do its duty with regularity and precision. In addition to its immediate effect on the heart, there is the remotest effect upon the blood vessels. The flow of blood through the arteries is regulated by the organic system of nerves called the sympathetic, which is not under the influence of the will. In the normal state, then, the calibre or size or bore of the vessel is prevented from becoming too large, and so the blood is not hurried through, and time is allowed for each organ to abstract its peculiar requirement from it as it passes through. Now, alcohol paralyses the sympathetic nerves, and so there is no check on the bore of the vessels, and they become dilated, and there is a rush of blood through them; so you perceive that the blush is caused by this want of regulation, and not by the increased force of the heart's propelling power. These vessels after a while contract and regain their normal size, but in old topers there is a chronic dilatation, shown by the persistent rosy hue of the face, and especially of the nose, which is a ready indicator of bad habits, and in confirmed drunkards you will often see the luxuriant growths known as, and very appropriately called, "grog-blossoms." The above effects constitute what is known as the first stage.

In the second stage the principal symptoms are due to interference with the cerebro-spinal system, which presides over those movements performed without the interference of the will, and therefore called automatic, or self-acting. The power of muscular co-ordination is also lost; the drinker
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begins to talk thick, his lower lip falls, his movements generally become very lethargic and irregular.

In the third stage the power of willing and thinking is lost, owing to the influence on the higher nervous centres.

In the fourth stage the centres are all paralysed except those that govern the heart and the lungs; if pushed still further, death ensues.

There is one physiological effect I must dwell particularly upon, and that is the reduction of animal temperature or bodily heat. It is a prevalent delusion that “a drop of spirits” warms one and keeps out the cold, and it is commonly taken on that plea. When taken with hot water, the latter may do some good; but it has been abundantly proved that alcohol always reduces bodily heat. It is generally supposed that this is effected by its acting as a check to heat formation; but from most carefully conducted experiments by my friend Dr. Bevan Lewis, of the West Riding Asylum, he concludes that the very opposite is the case, and that “the characteristic action of alcohol is that of greatly increasing the heat product, whilst dispersion of the fresh-formed heat is facilitated by the peripheral vaso-motor paresis, and that it is only in very small doses that we get a temporary lowering of heat formation.” If these observations are correct, and I believe they are, the loss of temperature is of much greater significance than is commonly imagined, for although alcohol actually produces more heat at the expense of the bodily structure, it, at the same time, causes its extra consumption in such a way that not only is it of no service to the system, but it proves a most potent factor in its deterioration. In a word, instead of adding to it takes from, and this principle carried to any extent must end in physiological bankruptcy.

Before going on to the enumeration of the long list of actual diseases caused by alcohol, let me impress upon you that each one of them is preceded by innumerable symptoms that cannot be actually named before their culmination in special diseases.

It is really remarkable how much liberty can be taken. Nature’s recuperative tendencies are so great that we are very apt to neglect the frequent warnings given of the slow and insidious, but on that account no less sure, march towards actual and irreparable mischief. If we were able to chronicle carefully the frequent headaches, the sleepless hours, the unpleasant dreams, the heavy morbid feelings, the sense of languor and depression, and many other abnormal states of mind which every confirmed drunkard has undergone in the earliest stages long before he could be accused of deserving that name, it ought to be sufficient to teach us what a dangerous article drink is, and its danger lies in its treacherous encroachment. The work of physical deterioration is accompanied by a gradual weakening of the will, which process will surely lead to the most disastrous results. No appeals, however loud, of shattered health, of ruined home—no, not even the terrors of death—have the slightest effect upon the unfortunate victim.

DISEASE OF THE STOMACH.

The functional disturbances of the stomach are perhaps the most frequent results of drink. For the proper performance of its duties it should secrete the proper quantity of its peculiar juice called gastric juice, which has the property of dissolving the solid albumenised constituents of the food and converting them into soluble peptones, so that they can be taken up readily by the blood; this juice is secreted by the mucous membrane which lines the stomach, and its solvent power on the food depends on a principle called pepsine and an acid allied to hydrochloric or lactic acid.

The food also must be subjected to the peristaltic action of the organ, by means of which it is thoroughly subjected to the action of the gastric juice. A temperature of about 100 degrees F. is also required, and the constant removal of those parts of the food which have been digested.

Remembering, then, these facts, it will be easy to understand how drink gives rise to dyspepsia or indigestion.
Alcohol, in any but the smallest quantities, destroys the pepsine and its food-dissolving function, it alters its composition and so perverts its action; furthermore, in considerable quantities, it irritates the walls of the stomach and gives rise to considerable congestion, and often the whole coat is covered by a thin layer of mucus, which further prevents the food from proper contact with the walls, and thus, by lessening the natural stimulus to the formation of gastric juice, greater mischief is done. The churning action of the stomach is also interfered with, and the proper temperature is not maintained; thus every essential to good digestion is interfered with. These changes are not a surmise or a theory, they have been actually observed in the stomach of Alexis St. Martin, who suffered from a bullet wound, which enabled Dr. Beaumont to see through the fistulous opening in the walls of the stomach.

In the earlier stages, if drink be abandoned, or taken in moderation, the stomach regains its former functions; if, on the contrary, the indulgence is prolonged, the work of destruction advances, and a condition of chronic catarh of the stomach is induced. The mucous membrane becomes changed in structure, there is a great increase of connective tissue which, after a while, contracts and blocks up the follicles or tubes that secrete the gastric juice, and in this way they are often changed into cysts or bags. The surface of the membrane becomes hard, rugged, and uneven. In the milder case, the principal symptoms detected are a heavy feeling over the stomach, pains in the side, a nervous irritable disposition, flatulence, and a feeling of fulness from flatulent distension of the stomach by the production of gas and various acids, such as butyric, acetic, &c., by fermentation; acidity and heartburn are also often present. The appetite is much impaired or lost, the only craving is one for more drink, expressed often by a heavy sinking feeling at frequent intervals, so that the body is apt to suffer either from want of a proper quantity of food, or the improper use made of what is taken, or partly from both.

The effects often extend to the membrane lining the intestine or bowels, so as to cause the greatest irregularity in their action, rendering them sometimes too costive and sometimes the reverse. The failure in the digestive powers, as you can well understand, completely upsets the proper performance of all mental and physical duties; and in order to have a healthy, clear, and well-balanced mind, ready to cope with questions in a calm, dispassionate way, it is essential to take food in proper quantity, at regular intervals, and to digest it properly.

**DISEASES OF THE SKIN.**

The skin is a complex organ, performing a variety of most important functions. It serves as an integument or covering to protect the deeper organs from injury, &c.; it plays an important part in the sense of touch; it excretes carbonic acid, water, &c., and so resembles the lungs, kidneys, and liver in function; it is an organ of absorption, and, lastly, it plays an important part in the regulation of bodily heat. I will not attempt to give you in detail the structure of the skin, but refer you to a lecture on that subject already published in this course, and will merely remind you that it is composed of two layers, the outer scarf-skin, and the deeper true skin. In the latter layer are deposited the sweat glands, the oil glands, and through it blood-vessels and nerves ramify in great abundance.

I have already mentioned how rapidly alcohol causes the rosy hue or red glow in the face, and I explained that this is caused by the paralysis of the vaso-motor nerves that govern the tension of the blood-vessels. Their calibre or bore is enlarged. Repeated imbibitions, then, are liable to produce a chronic dilatation, the imprint of which is often left on the face. I want here to point out to you the important part taken by the skin in regulating the bodily heat. You can well understand how the extreme congestion of the extensive vascular
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network of the skin produces a great waste of heat by radiation, conduction, or evaporation. Owing to the effect on the vaso-motor nerves, the blood-vessels are prevented from contracting, and a rush of blood through them is established, so, when the body is exposed to the cold air, the heat of the blood is constantly given away to the air, according to the law of radiation, "that when two bodies of unequal temperature are brought opposite to each other, an unequal change of heat takes place through the intervening distance; the temperature of the hotter body falls, while that of the colder rises." It is, therefore, exceedingly fallacious to think that the drink "warms one," or keeps out the cold. The feeling is a deceptive one, as the very reverse is the case. As most of the diseases of the skin are caused by an "alteration in the composition of the blood, or by modified blood distribution, owing to morbid changes in the nervous centres or nerve trunks," and as alcohol is guilty of both, we can easily comprehend what a large share it takes in the production of those red spots seen on the face of many people, called Acne; how it gives rise to a disease called Eczema, which is composed of small vesicles which burst and discharge, at first a thin watery fluid, and sometimes a decidedly purulent one which dries up and forms those disagreeable-looking scabs. Erysipelas is also much more liable to attack partakers of alcohol. It is only right to explain that all the above affections may be caused by other agents than drink.

DISEASES OF THE HEART.

The very fact that alcohol, as I have shown already, increases the rapidity of the heart's action, and compels it to do a great amount of extra work without receiving any compensating nutrition, nor even its normal amount, is sufficient to explain how it must act most injuriously on this most important organ. Irregularity of the valves, giving rise to valvular diseases so dangerous to life, changes in the structure of the walls of the heart from deposition of fat in, or its substitution for, true muscular tissue, often occur. Those afflicted with fatty degeneration of the heart generally suffer from general obesity, i.e., deposition of fat all over the body, and complain of a depressed feeling over the heart, distressing palpitation, lose their breath after the slightest exertion, and cannot undertake the slightest effort with pleasure. The quality of the life-giving liquid, the blood, is deteriorated, and the heart is unable to propel a sufficient quantity through the body.

A heart so unfitted to perform its duties is liable at any moment to cease beating, and so the life of its possessor is always in the greatest jeopardy.

DISEASES OF THE BLOOD-VESSELS.

Most of the blood-vessels, especially the arteries, are liable to various diseases from the abuse of drink, especially those exposed to a great deal of strain, e.g., the arch of the aorta which lies nearest the heart, and receives the first impulses of the heart's propelling power as the arterial stream is forced on its course through the system. The deeper layers of the vessels become inflamed, new formations appear which become changed into fat or into a soft caseous (cheesy) looking mass; or sometimes into a calcified hard mass from the deposition of lime. In the latter case the artery becomes quite hard and rigid and quite unable to perform its functions, its elasticity and its power of expansion and contraction are destroyed. These changes throw much more work on the heart, which at first becomes hypertrophied or increased in size, but ultimately degenerated in structure. The walls of the arteries become ulcerated, and at these ulcerated spots the blood-pressure gives rise to those sacculated dilatations called aneurisms, which sometimes burst and cause sudden death.

DISEASES OF THE EYE.

Certain functional derangements are aggravated, if not actually caused, by
alcohol. Black specks, little rounded beads or bands, or sometimes fly-like bodies, called muscae volitantes, are seen floating before the eye; these often are not due to any structural change, but they are very troublesome and annoying. Alcohol may produce them, or at any rate render them much more noticeable, by its tendency to disturb digestion, by its effect upon the nervous system and upon the blood supply of the eye. A chronic congestion or inflammation of the delicate lining membrane of the lid as it were called conjunctiva is often produced by drink. In its normal condition it is pale, white, and clear. When irritated the blood-vessels become dilated and engorged with blood, thus giving it an injected, red, painful appearance. This is often noticed in free partakers of wine; the venous injection is almost characteristic.

Cataract.—It is very difficult to say what share alcohol takes in the production of this disease, which is an opacity of the crystalline lens of the eye. Some have attributed to it a very great share. I cannot, however, say that my own experience at the Manchester Eye Hospital enables me to form very definite conclusions. As the disease is undoubtedly caused by deficient nutrition, due to an impoverished supply of blood and a consequent loss of the watery constituents of the lens, and as the disease is often found in such diseases as diabetes, where the watery constituents of the blood are very deficient, so that it assumes great density; and this gives rise to an endosmosis (or interchange) of the watery constituents of the lens, which consequently becomes opaque; and furthermore, as alcohol has an insatiable thirst for water, and as it undoubtedly acts injuriously on the blood, it is admissible to infer that it has a decided tendency to produce such changes in the eye. One thing is certain, that the prognosis in the cataract operations of heavy drinkers is never so satisfactory; we always look upon them with suspicion as to the result; the wounds do not heal well, there is a tendency to low forms of inflammation, and altogether such cases are tedious and troublesome at the best.

Amblyopia Potatorum.—This is a name given by ophthalmic surgeons to a disease frequently observed in the out-patient room of any eye hospital. The sufferer, often an apparently healthy, able-bodied man, complains of his sight. He says that it has been failing him for some time, that he has noticed a sort of veil or haze in front of his eye, that he cannot see anything distinctly, that everything is faint and with an indistinct or outline. He cannot read any but the largest type, glasses are of no service. On examining the eye with an instrument called the ophthalmoscope, by means of which the interior of the eye can be illuminated, we are often not able to detect any structural change. Then we naturally endeavour to find out the cause, and we can find none other than too great an indulgence in drink. The patient admits that he has taken "pretty fair," especially of spirits, and on Saturday nights. What convinces me that drink is the real cause, is that in a large number of cases that I have carefully recorded and watched, I find that where alcohol is entirely abandoned, and the system is brought up by tonic treatment, the sight is restored to its normal condition. The blindness is caused by the disturbance of blood circulation and imperfect supply of blood to the retina, that beautiful and wonderful nervous layer where the images are formed. If drink is persisted in, nutritive and structural changes take place, and the optic nerve, which conducts the impressions formed to the brain, becomes quite atrophic or wasted, and the case is hopeless. It has been my sad lot to see more than one such extreme case, where a strong healthy-looking man, led by an anxious wife to the hospital, had to be told that there was no hope for him, and that drink had been the cause of all this terrible affliction. Such causes occur to men who are by no means hopeless drunkards, but are apparently regular and hard-working men, but at the
same time regular and constant drinkers.

**DISEASES OF THE LUNGS.**

All physicians of note are agreed that drink predisposes to and causes a large amount of lung disease, congestion and catarrh, leading to further mischief, and that most terrible and fatal disease—consumption. "In the course of an inquiry on the causes of consumption, Dr. Bowditch, the President of the Board of Health in the United States, sent circulars to 210 medical men, asking them whether, in their opinion, alcoholism caused phthisis. Of the 210 appealed to, 109 answered in the affirmative, while 13 were inclined to the same view. To the question whether phthisis in children could be traced to the drinking habits of the parents, 100 answered yes, and 19 were undecided."

Dr. Richardson, who has given great attention to the subject, describes a special form, and calls it alcoholic phthisis. It is most commonly met with in persons about 48 years of age, who have been heavy drinkers, but rarely intoxicated. They have been apparently in good health up to the time of the attack, and have none of the ordinary characteristic appearances of the consumptive. They first suffer from acute pleurisy, an inflammation of the lining membrane of the lung, and feel great pain or "stitch" in the side. Then vomiting of blood from the lungs comes on, and the course downwards is hurried. Dr. Richardson says it runs on to a fatal termination more rapidly than is common in any other type of the disorder. The alcoholic bears a proportion of 2 per cent. to all other forms of phthisis. It is scarcely possible, however, to compute the percentage of cases where drink is an accessory cause. It prevents the proper performance of the functions of the lungs by the deteriorating influence on the blood, which is consequently unable to take up the necessary amount of oxygen from the air. The lung tissue must therefore suffer. Koch, an able German physician, in his last researches on consumption, proves that it is produced by the virus of a special contagium. "He found the tubercles infested with a minute rod-shaped parasite, which, by means of a special dye, he indifferenitated from the surrounding tissue." This explains why consumption is communicable. I refer to these interesting and important discoveries merely to say that it is possible that alcohol renders the lung tissue more liable to the infection, and, perhaps a more fertile nidus for these bacilli. Certain it is that inflammation of the lungs proves rapidly fatal in alcoholic patients. They have no strength to withstand it, and it is in the hour of need that alcohol generally proves itself an enemy.

**DISEASE OF THE LIVER.**

This organ suffers oftener than any other from the influence of drink. Its functions are varied; it purifies the blood by abstracting from it its hydro-carbonaceous products; it forms glycogen, a substance readily convertible to sugar, and it secretes from three to five pounds daily of bile, which possesses powerful antiseptic properties, and aids in the digestion of fatty matters. In structure "the liver is made up of an agglomeration of minute lobules of about 1/20th of an inch in diameter, and composed of the minutest branches of the portal vein, hepatic artery, hepatic and hepatic veins, while the interstices of these vessels are filled by the liver cells. These cells, which make up a great portion of the substance of the organ, are rounded, and from 1-800th to 1-1,000th of an inch in diameter. Each lobule is invested by areolar tissue." An enormous quantity of blood passes through it, and it should be constantly subjected to the influence of the liver. There is no doubt that alcohol, arsenic, strychnine, and other poisons, linger in the cells of the liver, and in this way their effect upon its structure is intensified. Alcohol undoubtedly increases the functional activity of the gland, and taken in large quantities produces active congestion, a frequent recurrence of
which gives rise to structural changes. It is this active congestion that so often causes those bilious attacks some people complain of; too much bile is formed, and so instead of aiding digestion it disturbs it, and produces headache, sickness, retching, giddiness, &c., &c.

Excessive indulgence in drink is ranked among the causes of inflammation of the liver—hepatitis, a disease that often runs a fatal course.

Fatty degeneration of the organ, is also caused by drink. In this affection the cells of the liver are loaded with fat globules, and their true character is completely changed.

Cirrhosis or gin-drinker's Liver.—The frequency of the above disease as a result of drink has given it the name of gin-drinker's liver, and its appearance has given it another very expressive name, i.e., hob-nailed liver. In the early stages, the liver is enlarged from exudation into the connective tissue. After a time this becomes organised into fibrous tissues, and these fibrous bands contract and press together the blood-vessels and cells of the liver, and both become atrophied and ultimately destroyed. This pressure on the lobules causes an uneven, rugged appearance, well expressed by the term hob-nailed. The organ becomes much smaller in size and greatly reduced in weight.

In the earlier stages, indigestion, bilious attacks, flatulence, constipation, feverishness, are the most prominent symptoms—later on, from interference with the portal circulation, dropsy is induced and death occurs from haemorrhage or exhaustion.

Diabetes, a disease in which an enormous amount of grape sugar is formed and found in large quantities in the urine, is said to be induced by alcohol, but I can find no satisfactory evidence on this point.

**Diseases of the Kidneys.**

Functional derangement of these organs is frequently induced by the enormous extra work thrown upon it mechanically through the consumption of a large quantity of drink. If these are continued the changes become organic, the structure of the walls and membranes become changed into a fatty or granular condition, and by inflammatory and exudative changes that tedious and fatal affection called Bright's disease is produced, and by it the albumen—one of the most important constituents of the blood—is allowed to pass through its membranes, and can be detected in the urine in large quantities. A tendency to the formation of calculi, or stone, is undoubtedly induced by drink and by the failure of the eliminatory functions of the kidney, &c. Gout and rheumatism are often developed, therefore persons suffering from these affections should most scrupulously avoid all intoxicating drinks.

**Diseases of the Nervous System.**

As I find material enough for another lecture on this head I will merely enumerate the different diseases produced under this division, and hope to present before you during the next year a detailed account of them. We often find a greater tendency to inflammation of the brain in inebriates. Alcohol, by its deteriorating influence upon the nervous matter and its covering, upon the blood-vessels and the blood, frequently induces apoplexy, epilepsy, and paralysis. Delirium tremens and dipsomania are types of diseases peculiar to drunkards.

Five types of insanity are due to it, and of these I hope to give you some account.

I must also leave the hereditary diseases produced by drink. I have, however, laid before you a large number of diseases, and I hope at any rate it will induce you to think of these disastrous results, and, by the exercise of your reasoning powers, that it will induce you all to do your part to prevent them, so as to produce a more healthy community in the present generation, and a vastly improved one physically, morally, and intellectually in the next.—From No. 3 of *Health Lectures for the People*, series 1881-2, published by the Manchester and Salford Sanitary Association.
THE OPINIONS OF AN OLD DOCTOR.

By William Whitelaw, M.D., Kirkintilloch, N.B.

Dr. Thomas Beddoes was born at Shifnal, Shropshire, in the year 1760. He practised the medical profession in Bristol, and died in 1808. Though, as will be seen, he had very clear views of the value of temperance, he was neither a man of one idea, nor distinguished only in the teaching of hygiene; but was eminent for his attainments in languages, mathematics, botany, mineralogy, geology, chemistry, and practical medicine. Among his various publications, he issued in 1802 two volumes, entitled Hygeia; or, Essays Moral and Medical; and it is chiefly from the second volume that I have compiled what now follows.

The Stomach and Digestion.—The substances received into the stomach that prove most hurtful to its operations are intoxicating or fermented liquors. I caused an equal quantity of the same food to be given to two young dogs of the same litter. Immediately after feeding, three drachms of spirit of wine, mixed with a drachm of water, were poured down the throat of one of the animals. In five hours both dogs were opened, within a few minutes of each other. The animal to which the spirit was given had its stomach nearly twice as full as its fellow. The bits of flesh were as angular as when they were cut by the knife at the time of feeding—they were also as firm in their substance. In the other dog these angles were rounded off, and the pieces throughout much softer.

On the Rhine, and in Bavaria, during 1797, 1798, and 1799, the scarcity of fodder rendered it necessary to destroy a great number of horses. M. Pilger made experiments upon nearly two hundred horses, with various poisons, and with distilled spirits and wine. He gave a number of horses wine and brandy, so as to raise them to a sensible degree of exhilaration. Upon these occasions he constantly found that brandy gave the interior of the stomach a shrivelled appearance; that it had increased the organism (immediate excitement) of the blood-vessels of the intestines, and also produced congestions in the brain. When either wine or brandy was given sufficiently to make the animals intoxicated, the brain was always much charged with blood, the organism in the fine vessels of the bowels strong, and the stomach shrivelled.

Strong liquors are equally productive of indigestion in man. Many hours, and even a whole night after a debauch, it is common enough to reject a part, or the whole, of a dinner, undigested. Drunkards and sots are so far deprived of the power of digestion that almost every portion of food shall be thrown up nearly as swallowed. Is it not then rational to conclude that what on the first occasion changes the appearance, while it impedes the action, of a very delicate organ, must, by many repetitions, establish an alteration of structure, and destroy the action altogether—or at least injure it permanently? The secreting apparatus being altered, the gastric juice can no longer be poured out on the food. Indigestion is attended by loathing, rejection of food, distressing flatulence, tremors, comfortless nights, and decay of the intellectual faculties. A very great proportion of even the moderate drinkers of strong fermented liquors experience some of these evils. Those whom the poet describes as—"Once fellow-rakes perhaps, now rural friends," find that in place of being partners in pleasure, as in their better days, they have now only to console with one another upon the torment of a bad stomach. Nothing is more fallacious than the common saying that every man of sense at forty knows what is good for his constitution. The party himself may not be thoroughly aware of the mischievous power of what is reckoned a moderate daily dose of wine, after all his experience; though it is likely that he would have checked himself if he had only been apprised before.
his habits became fixed of the conditions on which alone he could expect the organs of digestion to continue to perform pleasantly their functions.

The Liver.—The classes that take inebriating liquors strongest and in largest quantities—other circumstances being equal—are most subject to complaints of the liver. By persons in any degree debauched, and indeed by the drinkers of fermented liquors in general, the faintest standing signs of indigestion may serve to indicate that there is something amiss with the liver. Organs intimately connected must be expected to sustain damage in common. The liver has sometimes been found indurated after death without any symptoms but that of indigestion.

Among the subjects in Nature which may with propriety be selected for exhibition, the disorganised liver and the complaints consequent upon its disorganisation would form some of the most appropriate. These altered structures in the human body, the effects of a common mode of living, are kept out of the sight of those who would often avoid the mischief had they that ocular demonstration of its existence and knowledge of its origin which the physician can seldom turn to any considerable account for the benefit of the diseased.

Dropsy is the usual severe fate of those drunkards, or moderate wine-bibbers, who have persevered till an alteration has taken place in the substance of this master gland. Some pathologists ascribe the dropsy to the same over-stimulation of the lymphatic vessels, which weakens all other parts of the body at the same time.

Indigestion and Gout.—It has been thought that a large quantity of wine is good for arthritics (gouty patients). I should suppose this opinion to have grown current, not on account of its justness, but because it was agreeable to the lovers of wine. These should recollect, first, that free use of wine of itself injures the stomach and impairs the digestion; and, secondly, that persons addicted to wine are those who chiefly bring on and cherish gout, whereas the poor, who drink scarcely anything but water, have a keener appetite with a better digestion, and scarcely know anything of gout. I have seen very few perfect cures of this disorder. One or two wretchedly debilitated patients, on total abstinence from animal food and wine, have recovered so firm a state of health that their life was no longer a burden to themselves or useless to others. But these examples are too rare to give much hope that others will be so fortunate.

Brain and Nervous System. — In the experiments on horses, formerly quoted, it appeared on dissection that those which were killed under the influence of spirits of wine had an unusual degree of redness on the surface and in the interior of the brain. These traces of excessive action in the blood-vessels correspond to phenomena in common life too well known to admit of description. Considering both together, it cannot be wondered at that the temporary apoplexy of intoxication should, by many repetitions, be at last converted into immediately fatal apoplexy, or into such an attack as leaves hemiplegia (paralysis of one side of the body) behind it.

Between complete health and this catastrophe the interval is frequently long. The changes, too, from the time when the nervous energy begins to be impaired, to its complete abolition, proceed insensibly. Strictly speaking, whoever has less feeling or voluntary motion than he would have had at any given period—if no noxious power had operated upon his nervous system—may be considered an incipient paralytic.

Rearing of Children.—Medical practitioners among the poor find parents perpetually stunting the growth and destroying the constitution of their children, by their ill-judged kindness in sharing with them the distilled liquors which they themselves swallow with much avidity.

Among the causes fatal to the health of the higher classes, the allowance of wine that is often served out to the children, short as it may appear, de-
serves to be considered as not the least considerable. Mr. Sandford, surgeon at Worcester, relates the following observation, which may be confirmed by thousands equally certain, though made with less precision:—“A late ingenious surgeon, Mr. Hunter, gave to one of his children a full glass of sherry every day after dinner for a week. The child was then about five years old, and had not been accustomed to wine. To another child nearly of the same age, and under similar circumstances, he gave a large orange for the same space of time. At the end of the week he found a very material difference in the pulse, the heat of the body, and the excreta of the two children. In the first child, the pulse was quickened, the heat increased, and the discharges destitute of their usual quantity of bile; whilst the second child had every appearance of high health. He then reversed the experiment; to the first-mentioned child he gave the orange, and to the other the wine. The effects followed the administration as before—a striking and demonstrative proof of the pernicious effects of vinous liquors on the constitution of children in full health.” The deficiency of bile is full evidence of the injurious effect of the wine upon the digestive organs in this double experiment. The operation of the glass of wine, in a single week, must make every person open to palpable facts shudder for the consequences of a long continuance of the same habit. Why, then, not profit by the example? The false shame of standing single amid a host of bad examples is out of the question here. Children know nothing of that factitious flatness of imagination which in debauched adults calls for relief from the enlivening potion with a voice as imperious as that in which the natural appetites of hunger and thirst demand the means by which they are respectively assuaged. As the greatest authorities are against wine, as there are none worth regard on the opposite side, and, above all, as there is so little danger of being thought odd, why risk the early destruction of that organ which may be regarded as the great regulator of the inward man?

Even as a medicine wine ought perhaps hardly ever to be administered to young people in their chronic ailments. Drugs may commonly be found which will equally answer the purpose, and these drugs would without difficulty be relinquished when their continuance would be as hurtful as wine to a healthy child. Or it may be good policy to give a disagreeable drug in wine, that the vehicle may become hateful by association, children will not crave this dangerous beverage unless they have been instigated by example, or have been taught to relish the liquor by frequent use.

That all who begin early, and continue without intermission, the use of strong vinous liquors, are not injured, is a certain truth; and we are perpetually reminded of the exception as an excuse for the practice so universally marked by medical observers as destructive. But neither do all who are exposed to its contagion catch the plague. And yet is not the hazard sufficient to induce every man in his sober senses to keep out of the way of infection? That every man shall become a valetudinarian, more or less miserable, if he daily drink a quart of a pint of port wine from his fourteenth, fifteenth, sixteenth, seventeenth, or eighteenth year, is to the full as probable as that he shall have a dangerous disease if he come within reach of the effluvium of the plague.

Wine in the Diet of Women.—The quantity of wine, small as it may appear, which many women allow themselves, deserves mention, as it is, probably, not without its influence in rendering them dyspeptic and low-spirited. If it be true, in any case, that the effect of intoxicating fluids is not to be estimated by measure only, but also by the state of the person who takes it, it must be true with regard to inactive, delicate, and nervous females. I have repeatedly known the head, in such females, to be most disagreeably affected by a small glass of port wine and water. The operation of the mixture has been completely narcotic, not the
slightest exhilaration having preceded the sense of heaviness and stupefaction. The parties thus affected have always found themselves better under a course of total abstinence from vinous liquors.

The Fallacy of Moderation.—There is probably no one complaint produced exclusively by fermented liquors or analogous stimulants. But they are the most frequent cause of many complaints; and, where they do not operate alone, they reduce the system to a state in which it is overpowered by enemies that otherwise would make an impression. Nor is it the sot's or drunkard's progress only that is delineated here. Great multitudes come to the same misery with the drunkard and the sot, without ever numbering wine among the pleasures of existence, and who have always filled their glass scantly in involuntary imitation of, or reluctant compliance with, their associates. But there are actions in which it is fatal to bear the smallest share, or even to be present at their perpetration. Murder, and that kind of slow self-murder which is committed by the abuse of diluted poisons, is of the number. To pine in a certain comfortless state before falling into a well-marked disorder, is not less frequent than to linger on a sick-bed before entering the asylum of the grave. The drinker of too much wine commonly finds himself cachectic, or, as some familiar writer terms it, "I don't-know-howish." for a long time before he is compelled to resort to the practitioner of medicine.

One of the just indications of mischief from wine taken constantly in moderate quantities, when it may be supposed to act as an alternative, is a sense of dissatisfaction, and being ill at ease some hours afterwards. The young and sparing votary of Bacchus cannot be expected to tremble all over on first rising, and to exhibit to every spectator, in a lack-lustre eye and cheerless morning visage, the effects of his afternoon's libations. But what the veteran dram-drinker is unable to conceal, the other will be sensible of, in a proportionate degree, on self-examination. He will probably awake hot, restless, and heavy. The early sun will seem an intruder. He will reluctantly shake off his drowsiness, dress with languor, and be indifferent about food. The mouth will feel clammy, and the stomach uneasy, until revived a little by warm tea or coffee. After yawning and stretching till the limbs are properly aroused, he will eagerly close with any scheme which promises to raise emotions or relieve that listlessness which dinner and the glass are required completely to dissipate.

In course, sometimes, of a very few years, there takes place general want of comfort, accompanied with particular uneasiness about the stomach, except shortly after that organ has been roused into temporary energy by more or less repletion. Though scarce a day passes but the alimentary canal is sensibly out of order, there are no severe or alarming symptoms. These irksome sensations, however, come and go; and the person who experiences them can continue his business, his studies, and his pleasures.

It is now that vinous liquor begins to act as a two-edged sword. By its first operation it increases that indigestion of which it has already largely contributed to lay the foundation. Its second operation is little less pernicious to the enfeebled viscera. This depends upon the change into vinegar which wine, as well as ale and other fermented liquors undergo; as also upon the acaceous extractive vegetable matters with which they are incorporated.

The Evil is in the Drink.—The convivial possessor of ample cellars praises his good fortune when he compares himself with young men who regale upon home-brewed and unmellowed wines. But the distinction rests upon a difference little in point as to health. It is the result of common observation, confirmed by medical experience, that among country gentlemen, citizens, the frequenters of the common room, the associates of the mess, farmers, clerks, and artisans, a large proportion injure their digestive organs, whatever be
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the coarseness or tenacity, the purity or adulteration of the liquors, provided they be about the same strength and taken with nearly equal freedom. Dissimilarity of constitution and occupation, of exposure and the like, will produce a dissimilarity in the result—and but seldom the oil, mucilage, and extractive matter that accompany the spirit in the stimulants habitually used. The difference between the effects of the most clumsily manufactured wines and the purest when of the same strength is perhaps scarcely equal to the difference between ninety-nine and one hundred.

One thing only, on a comparative view, would appear to make somewhat in favour of spirits and of wine long kept; they lose their bulk—that is, they become weaker, and the alcohol is the part that evaporates.

Culpable abuse of the Body.—If the East can produce its Fakirs, with their limbs distorted and rendered useless by constant confinement in the same position, cannot the West match them with figures equally disabled by their own endeavours? Our crippled Bacchanalians have no right to set the pleasures they derive from the process by which they have been reduced to their present state above the satisfaction which the Fakir finds in being followed and feasted by his countrymen and countrywomen. The motives of the Fakir of Brahmah seem of a more refined character than those of a Fakir of Bacchus—implying greater elevation and force of sentiment.

Among this or that uncultivated tribe it may be the fashion to squeeze the head into an unnatural form, but do we not also take pains to drench the interior of the body fully as much as they can disfigure the exterior? The hordes of the wilderness sometimes practice horrid mutilations, but then they suffer the residue of the frame to enjoy its full measure of vitality. We again drain off from every fibre its spirit and strength, leaving a vain image stuffed out to human dimensions with the dregs of nerve and muscle. In fact, whenever the genius of civilisation shall take it into his head to compare notes with the genius of barbarism, he may adopt the language in which a modern versifier makes the muse of painting address the muse of poetry:

"A son of mine
Has more than followed every son
of thine."

A few Special Words to Parents.—As parents and protectors of beings whose happiness is at stake, inasmuch as their constitution is unconfirmed, the majority among you have more than a single interest in the art of preventive medicine and hygiene. It is not upon yourselves alone that your want of proficiency in this art is visited. By unwitting violation of its precepts you deal out misery where the thought of dispensing happiness constitutes your prime delight. That your interesting cares are multiplied as your family receives accessions you do not require to be told. But you may not be fully aware of the necessity of extending your views to a variety of situations and to a long course of events. The duration and use of every production of nature and art depend upon the manner in which it is managed and preserved. Whether the question respect things fabricated by hands human or Divine, the true still obtains. In order that they should last long, and properly perform the services for which they are destined, the nature of their materials, and the peculiarity in their construction, must be religiously regarded, either when they are employed for any purpose or put aside for future occasions. Of this attention the necessity is as great in respect to human beings as to machines of any other description.

A Forecast of Total Abstinence Societies and Bands of Hope.—At some future period a sufficient fund of hilarity will be discovered in social exercises, and in the communication of ideas belonging to literature and science. The accumulation and diffusion of knowledge directly tend to render the human species independent of wine. There is not an elementary treatise or course of lectures, perhaps, but is contributing towards the
eventual restoration to Ceres of that extensive domain which Bacchus has been long suffered to usurp. All that is wanting is a stock of materials, which may serve in common for the production of agreeable feeling without damage to the organisation. That this is to be had, we may learn from the lives of many individuals of our own country; from Waller, the poet, to the poet and physician, Darwin. Some of these furnish examples of perpetual sprightliness, with perpetual abstinence from wine; and, what is stronger evidence still, other examples of sprightliness unimpaired by the disuse of wine, after free indulgence. There remains to be conferred upon our nation a benefit of which the author would deserve infinitely more than any legislator, warrior, or inventor, who has obtained celebrity among us—that is, a plan of social intercourse independent of the pleasures of the bottle. The meetings should be made more promiscuous than our parties by the introduction of boys and girls at the age when they begin to use their reason. A few of the best informed inhabitants of different places must at first be the active persons, and provide entertainment for the circle. In many of the company there would be kindled a zeal for information which would make them find a new pleasure in existence. And in all the exclusion of the petty, malignant topics of common conversation would tend to create a better and happier disposition. To describe the probable effects of such a system of communication among families upon temper, health, and morals, would be worthy the pen of the ablest author.

No more need be added. The above annotations indicate what a rich mine of instruction exists in Dr. Beddoes' almost forgotten books, and also how keenly the evils of social and medicinal drinking impressed a thoughtful, cultivated mind eighty years ago. What Terence says is almost true in these days: *Nullum est nunc dictum, quod non dictum prius.*

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**ON THE ABUSE OF NARCOTICS.**

*By Henry Barnes, M.D., F.R.S.E., Physician to the Cumberland Infirmary.*

The great abuse of narcotics in all classes of society is an evil which must have forced itself upon the attention of the majority of those who see any great amount of practice; but, in spite of the strong protests which continue to be made, both in the medical and lay journals, little progress is effected in the way of obtaining more stringent legislative measures to check the growing evil. There seems to be a kind of fashion which regulates the particular kind of narcotic which has a run. I do not see so many cases of opium-eating and laudanum-drinking as I did in the earlier years of my practice, but it is

*Read at the Autumnal Meeting of the Border Counties Branch of the British Medical Association.*

within my knowledge that, in recent years, a considerable increase has taken place in the number of victims to the inordinate use of chloral, morphia, and chloroform. The Pharmacy Act of 1868 was intended to prevent the public from obtaining unlimited supplies of poisonous drugs which might be used for unlawful purposes; and the misery, ruin, and crime, which track the luckless victim of the narcotic habit, make it incumbent upon us to discuss what efforts should be made to wean him from his besetting vice. According to the provisions of the Act, there are two classes into which poisons may be divided. In the first class are included all those poisons which are not to be sold unless the purchaser be known, or be introduced by some per-
son known to the seller, and an entry be made in the poison-book, indicating: (1) date of sale; (2) name of purchaser; (3) name and quantity of article; (4) purpose for which it is wanted, attested by signature. And the packet or bottle must be labelled with (1) name of article; (2) word "poison"; (3) name and address of seller. This list includes all vegetable alkaloids, arsenic and its preparations, aconite, atropine, cantharides, cyanide of potassium, corrosive sublimate, tartar-ematic, ergot of rye, hydrocyanic acid, savin, strychnia, and vermin-killers, if containing any of the above.

Class II includes poisons, which must be labelled with the name of the article, the word "poison," and the name and address of the seller. This class includes essential oil of almonds, belladonna, tincture, and all vesicating preparations of cantharides, chloroform, chloral-hydrate and its preparations, preparations of corrosive sublimate, preparations of morphia, opium and its preparations, oxalic acid, red precipitate, white precipitate, nux vomica and its preparations, and vermin-killers containing any of the above. There are special and more stringent regulations relating only to arsenic and its preparations.

Our daily experience in newspaper reading shows that these restrictions on the sale of poisons are quite ineffectual in regard to the main object for which they were obtained; and they are still more useless in preventing anyone who has developed the narcotic habit from obtaining unlimited quantities of his favourite drug. All the articles in common use by such unfortunate are included in the second class; and anyone with money may obtain as much as he pleases without being known to the seller, provided only that the name of the article, the word "poison," and the address of the seller are given along with the drug. It is only about five years ago that the drug chloral-hydrate was included in this schedule; and this has been done owing to the oft repeated protests of a former President of this Branch, the respected coroner for the city of Carlisle, Dr. Elliot, who had occasion to hold five inquests, owing to the facilities which existed for the sale of this powerful poison.

I am not aware what the necessity is for having two schedules of poisons under the Act. If certain precautions are needed for the sale of aconite, tartar-ematic, and strychnia, surely similar precautions are needed when the sale of chloroform, chloral-hydrate, and morphia, is in question; and the provisions of the Act might be made more stringent with great advantage to the public.

This would act to a certain extent in a beneficial way; but it is not all that is needed. The habit of misusing narcotics is very speedily engendered, and physicians should be very watchful of the purposes to which their prescriptions may be put. It has happened to me more than once to have my attention called to the frequency with which sleeping draughts containing chloral were being made up for a patient, long after the illness for which the original prescription was given had ended. On one occasion, when calling at the shop of a druggist, I was startled to find that a patient of mine had got a prescription made up much more frequently than was intended. The prescription consisted of equal parts of spirits of chloroform and compound tincture of cardamoms, and was ordered on February 17th. In February, two ounces of this mixture were obtained, of which the dose was to be a teaspoonful; in March, two ounces; in April, six ounces; and in May, between the 2nd and 20th—the latter being the date upon which my attention was called to the matter—the quantity obtained was fifty ounces. I am disposed to urge that prescriptions containing narcotics should not be repeated more than a certain limited number of times without being revised by the physician in attendance on the case.

There is also a danger in allowing patients to have the use of hypodermic syringes, or in recommending them to purchase the same, except,
perhaps, in cases of organic disease, where the patient lives at an inconvenient distance. I have seen the morphia habit, or morphinism, developed in this way; and an exceedingly dangerous and troublesome vice it is to eradicate. This form of vice seems to prevail very extensively in America, and also on the Continent. In Austria its most numerous victims are said to belong to the medical profession. Among the most prominent of its symptoms which have attracted attention I find the following: a disinclination to portion, labef appetite, hyperesthesia, general emaciation, loss of memory, suicidal tendencies, and a general moral deterioration, similar to what is seen in cases of chronic alcoholism. Lying, which is first had recourse to in order to conceal the habit, soon pervades the whole mind; and the morphinist becomes the prolific father of lies upon all subjects, even when the truth would serve as well. The remarkable rapidity with which the habit is sometimes developed is very striking, and the enormous doses of the drug which may be tolerated are also a point of interest. In a case which has recently been under my observation, these points were very well illustrated; but the preparation used was not any of the ordinary preparations of morphia, but a patent preparation known as Dr. J. Collis Browne's chlorodyne. This drug is very extensively advertised, and has a large sale. It is said to consist of morphia, hydrocyanic acid, chloroform, and probably also Indian hemp and belladonna, or its alkaloid, atropa, with some other ingredients of a less active character, used to disguise its real nature and make it palatable. Now this drug, containing these five poisons, is not even labelled as being poisonous in its nature, is sold by all druggists, and even by grocers and patent medicine vendors. From one of the latter class I recently obtained a specimen; and I find in his list, as an additional recommendation, that he sells it at lower prices than is done by his neighbours, the duly qualified pharmacists.

To show you the large quantities of it which may be obtained and tolerated, I quote the case briefly.

Miss L., aged 24, came to Carlisle on August 15th, to act as a nurse to some chronic invalids who were under my care. She had been trained in a large public hospital, was well recommended, and was in reality an efficient and capable nurse. She was always fit for her work on the occasion of my visits, which were usually at intervals of a week; but it was not long before I heard of her being peculiar in her manner of dropping asleep at her work, or even at her food, and suspicions became aroused as to her indulging in some narcotic. On September 30th, she was asked whether she was in the habit of taking any narcotic; and she confessed that, during her brief residence in Carlisle, she had given herself up to the unlimited enjoyment of a habit which she had contracted during her training. She is of a nervous, hysterical temperament, but had enjoyed fairly good health. She tells me her mother is addicted to the use of chloroform, which she uses in large quantities, and frequently gets through a large pint bottle in twenty-four hours. During her childhood, her mother often gave her soothing drugs to make her sleep at night; but she never practised the habit of regularly taking anything until, during her training, some nurse recommended her to take chlorodyne for some trifling ailment. She rapidly yielded herself to the seductive influence of the drug, and facilities for obtaining it in the hospital being good, she soon attracted attention. On being found out, she lost her situation. For seven months she had restrained herself absolutely, chiefly, I believe, for want of means or want of opportunity of gratifying her depraved appetite. But, on her coming to Carlisle, she had obtained possession of £20, and of this sum only a few shillings remained at the time of her confession to me, the greater part of it having been spent in the purchase of her favourite drug. An examination of her box showed fifty-four
empty chlorodyne bottles, which had been recently purchased. There was one at 1s., which had contained 7 ozs.; there were thirty which had cost 18s. 6d. each, and had contained altogether 67½ ozs.; there were fifteen at 2s. 9d., which represented 15 ozs.; and eight at 1s. 1½d., which represented 2 ozs.; so that in six weeks we know that she had got through 91½ ozs. She informs me that she had had about half as many bottles more, but had thrown them away; and I am inclined to think that this is true, as I know that during the period she had spent £20, and the price of the bottles found would only amount to £10 16s. 3d. She informs me that her usual dose was a four-and-sixpenny bottle, which contained two ounces and two drachms, and that the eleven-shilling bottle only lasted little more than twenty-four hours. She had never experienced any difficulty in obtaining as much of the drug as she required; but one druggist had recommended laudanum, as being much cheaper, and as being likely to answer the same purpose. She had reduced herself by the habit into a very helpless condition—a state of almost absolute physical and mental prostration, and had even harboured thoughts of suicide. She had heard of some retreat for habitual drunkards, where such cases as her own had been received; and, on my recommendation, her friends decided upon placing her in one of those institutions, where she is now slowly recovering from the effects of her six weeks’ dissipation.

This case seems to me to point to a fact which is new to me. We know that the system may become habituated to large doses of morphia and chloroform; but here, in addition, we have a patient taking, along with these drugs, large quantities of hydrocyanic acid. May the explanation of this not be that the latter does not occur in the free form, but has combined with the morphia—the form of cyanate of morphia? or the action may be modified by some of the other ingredients contained in this composite drug.

I have looked up the controversy which took place some years ago as to the composition of chlorodyne, and from a perusal of this I find that morphia, chloroform, and hydrocyanic acid have been detected by chemical analysis; and the presence of Indian hemp and belladonna has been inferred from the physiological symptoms occurring in those who have taken considerable doses of the drug. With regard to the presence of the last named drug, I have observed strong confirmation in the present case, as on all occasions when I saw the patient the pupils were widely dilated. Now, looking to the fact that this patent preparation certainly contains three poisonous ingredients, and probably five, four of which are included in the schedule of the Pharmacy Act; looking to the fact that its medical dose is stated to be from ten to thirty drops, and that very alarming symptoms have occurred from a dose of forty minims, it is surely an anomaly in the law that the sale of such a powerful poison should be quite unrestricted, and that patients should be able to obtain such enormous quantities as was obtained by the patient whose case I have just narrated. From the facilities which exist for obtaining such-like drugs, there can be little wonder that death from poison is of such common occurrence, as will be fully seen by a reference to the records of the coroner’s court.

There are many other patent medicines which are known to contain similar poisons. I allude to the class of soothing syrups, cordials, carminatives, and cough-tinctures and essences so extensively advertised; and it is fully time that the Legislature should be asked to interfere for the protection of the public. I am glad to find that the Chairman of the Parliamentary Bills Committee of our Association has frequently brought this matter before the attention of his colleagues, and I trust that this Branch will be induced by what I have said to take such action as will strengthen their hands in the efforts they are about to make during the coming session of Parliament.—British Medical Journal, Nov. 25.
ON DRINKS AND DRINKING.

By James Edmunds, M.D., London.

I think it a mistake to drink strong tea when we merely need water; but as to suggesting a practical substitute, I confess to being often in considerable difficulty, owing chiefly to people's acquired tastes. One would premise by asking the reader—Does he eat and drink to live, or does he live to eat and drink? For such as practically live in order that they may eat and drink, I think it matters but little in what way they wear out their viscera and extinguish themselves. But for refined gourmets who, while enjoying their eating and drinking, as healthy people enjoy the performance of all their natural functions, yet eat and drink in order to supply their bodies with energy in the best way, and not as a mere animal indulgence, the question is one of large and practical interest. Now, such people in eating and drinking should aim to get the largest amount of energising food at a minimum of cost, and at a minimum of wear and tear to the digestive and scavenging viscera of the body fed. To enter upon these interesting food questions would be to travel beyond the question. But the question of drinking has to be considered from the same standpoint, inasmuch as, though drinking is not intended to supply the body with food, yet it should be regulated upon the same principles. While the food may accurately be compared to the fuel in the furnace of a steam-engine, drink has no very perfect analogy in mechanics that occurs to me at this moment. But want of water is much more rapidly and painfully fatal than want of food. Water in the system plays the part, first, of a solvent; second, as a vehicle for carrying the dissolved food into the system, and afterwards from one part of the system to the other in a ceaseless circle of water-carryage movements; thirdly, of dissolving out of the tissues all effete matter; and carrying these off to the scavenging organs, such as the lungs, kidneys, bowels, and skin. Now, in cholera, where vast quantities of aqueous dejections occur, the blood becomes thick, treacly, and viscid, and all the functions of the body are obstructed inversely in the order of their necessity for the maintenance of existence. First, the oxidation of food is diminished, and the temperature of the body rapidly falls; secondly, the elimination of refuse matter other than by the bowels is diminished variously, and effects, practically, of poisoning by these retained matters takes place. Such are the violent muscular cramps which torment the patient for hours previous to death. In slower forms of death from want of water, as on shipboard or in boats at sea, maniacal symptoms are ushered in by the fearful thirst, and these are largely due to retention within the blood of effete matters which, while the blood is adequately liquefied, are carried off in solution by the kidneys. Now these forms of death are only extreme developments of the appetite for water which we call thirst. In quenching thirst it should be recollected that water is the only substance by which thirst can be met; and that intermixing alcohol, coffee, tea, &c., with water in order to relieve thirst is a mistake. Neither alcohol nor any other liquid would do aught but hasten death from thirst. Much salt in the food makes one very thirsty. Why? Because, an excess of salt having been taken into the blood, the kidneys hasten to turn it out of the system; and in turning out the salt they have to eliminate a large quantity of water in order to dissolve it and carry it off; thus the blood is left too thick, and the person feels thirsty. Now one reason why beer-drinkers go back so soon and so repeatedly to the public-house is because salt is put into their beer for them; and, taking the effect of the salt and of the alcohol together, there is no doubt that beer aggravates thirst instead of quenching it. Beer-drinkers
On Drinks and Drinking.

Imagine that abstainers from alcohol drink "a lot of cold water." But, in point of fact, it is the beer-drinkers who drink the "lot of cold water." Any beer-drinker who goes to the food department of the South Kensington Museum will there see the constituents of beer all separated in a visible form in their proper proportions, and he will learn that out of twenty pints of beer that he buys nineteen are water! Nearly one pint is alcohol, and the rest is treacly residue, with salt and other unimportant constituents. The treacly matter represents the food material, or residual barley, left in the beer. The alcohol may be partially oxidised in the system, but its effects are chiefly felt in taking the edge off those sensibilities by means of which the system is conscious of fatigue; and a large part of the alcohol is exhaled by the lungs and skin, as is shown by the smell which emanates from the drinker. The salt gives a certain piquancy to the flavour of the beer by irritating the nerves of the tongue, and it serves also to set the kidneys going, and bring the customer back to the public-house. Beer, when taken at meal times by those whose stomachs have been trained to look for it, provokes a secretion of gastric juice, and its alcohol is rapidly washed out of the stomach, in order that the solution of the food may not be hindered. If stronger alcoholic beverages are taken, such as wine or spirit, digestion is more completely arrested pending their removal, and, as is well known, if the glass of wine be repeated too often, digestion is altogether prevented, and a few hours afterwards the food has to be returned by the way it entered. In this case it is generally said that "the salmon has disagreed" with the unfortunate diner-out; but I have generally observed that the capacity for walking straight is as much impaired as is the capacity for digesting food, and, unless when wine had been taken largely, I never saw "the salmon" make a man ill. Against tea or coffee not very much is to be said, and I never knew of a police-court case in which the defendant ascribed his violence to having taken too much tea or too much coffee. But for the quenching of thirst, tea and coffee are bad. The habit of drinking strong tea or black coffee directly after dinner is especially bad, and certainly interferes with digestion. At breakfast time a healthy man has all his sleep in him, and surely it is unscientific for him to inflict upon his system strong tea or coffee. At "tea-time" tea or coffee may well be indulged in moderately; the bulk of the day's work is done; the body not only wants rinsing out, but fatigue is felt which may well be counteracted by the use of a mild stimulant, such as tea; and bedtime is not yet so near that sleep is thereby interfered with. Most nations that drink coffee largely get a sallow skin; and I am inclined to think that the carbonaceous matter of the roasted coffee, when so largely and frequently taken, may perhaps have something to do with this. For hard-working people, who are not corpulent, I should suggest the thick flake-cocoa as the healthiest and most nutritious breakfast beverage. For those who do not want fattening drinks, and who often cannot digest cocoa, I should say, drink hot water at breakfast. Those who dine late, and make their dinner their main meal, need a diluent drink an hour or two afterwards, and if they drink tea it keeps them awake or makes them irritable and nervous. I find for myself that dining solidly, as I am obliged to do when I have done my work (7-30 p.m.), and often needing to work from nine to eleven, a tumbler of hot water brought into my study or laboratory is the best and wholesomest drink, and, after a few evenings, it will be as much relished as the usual draught of tea. The hot water assists to complete the digestion of residual food, it acts upon the kidneys, and rinses out the effete matters, and thus will be found to wake one up sufficiently, and neither to injure the stomach nor to keep the brain awake after bedtime. In cold weather warm water is by far the best drink at dinner-time, and in hot weather a draught of warm water is
far wholesomer and more cooling than cold or iced water. Upon my own dinner-table I always have some of Feltoe's (Albemarle Street) Speciality lime-juice cordial (a pure, finely-flavoured syrup of lime-juice, which is very cheap, and keeps perfectly in a decanter); a tablespoonful or two of this, and then hot water to fill up a tumbler, makes a nice wholesome drink at dinner-time or otherwise, when a mild sort of lemonade is fancied and needs to be had without preparation from the fresh lemon. The use of iced-water is one of the few refinements of life which our American cousins indulge—not because it cools them or quenches their thirst, but simply because they have acquired bad habits and have demoralised their palates. At an hotel in the United States, guests will be seen sipping hot coffee, iced milk, and other things alternately, as well as devouring, in no time, a vast quantity of viands, on the principle of "devil take the hindmost," and mixing up in their mouths substances which to an ordinary Englishman seems to make a strange medley. It may be that the "devil takes the hindmost" at the hotel tables, but I am certain that afterwards the doctor gets the foremost; for nowhere else do we see such a nation of dyspeptics and such need for dentists. The difference between the heat taken into the body by a glass of iced water or a glass of tepid water is trivial, and is more than outweighed by the fact that the warm liquid relaxes the skin and promotes free perspiration and evaporation therefrom. The cooling effect produced by this evaporation may readily be noticed by observing the coolness which an afternoon draught of warm tea affords as soon as the skin relaxes. In fact, the hankering after iced water is a mere itch of the palate analogous to that which a chewer or a smoker is subject to with regard to his quid or his pipe. There are heavy workers in glass furnaces, &c., who perspire so freely and part with so much water to carry off the waste from their muscles that they need very large supplies of liquid for their thirst. Such men, if they take beer freely, break down early in life; and what they need is a tepid oatmeal drink, which not only keeps their blood at a proper point of dilution for rapid scavenging and for free evaporation, but also supplies them with harmless food matter in considerably larger quantity than exists in the treacly residue which is left by beer when the water and alcohol have been distilled off. For such workers—in harvest-fields, at coal-whipping, in puddling (an occupation which will probably be superseded), in stoking marine engines, in glassworks, &c.—the following drink will be found cheap, sustaining, and very healthful:—Boil a quart of good oatmeal in two gallons of water for fifteen minutes, and when done add a pound of brown crystallised moist sugar, then slice finely two lemons into a thick, clean 2-gallon cask with a wooden tap. Pour in the boiling oatmeal and sugar and then fix the bung. A 4½-gallon cask of this can be made for about a shilling, on beginning work at the foundry or before going to the harvest-field. It will serve a considerable gang of men all day with admirable drink and real refreshment. If the cask have been put into a strong box, the wooden tap and spigot fixed in through holes in the end and top of the box, the space round the cask then rammed with sawdust, or, in its absence, with hay or other such non-conducting material, and the top screwed on, leaving a proper hole for inserting the bung after the oatmeal has been poured in it will keep warm all day. If limes or lemons cannot be had, put in an equivalent quantity of Feltoe's lime-juice cordial for flavour. But, in this case, the fresh lemon—with its peel—all finely sliced, should be used in preference, if practicable. A brass tap should not be used. I have no doubt that a man hawking this round such works, at a halfpenny a draught, would meet with abundant welcome, and do very well. Its cost would be about one-fourth that of beer; it would be absolutely wholesome, and it would contain twenty times the nourishment.

AN AMERICAN INEBRIATE HOME.

The medical treatment of habitual drunkards has, in the United States, so risen in popular estimation as to have created a demand for a number of special institutions for the care and cure of inebriates. The fourteenth annual report of one of the most successful of these establishments is now before us. The home in question is situated at 2441 Hamilton, in the vicinity of New York city, and stands in a park of twenty-six acres. The president, Dr. Mason, gives an interesting analysis of 600 cases of alcoholic inebriety treated at this home. Of the whole 600, less than 20 per cent. were females, a remarkable contrast to the unfortunate state of things in this country, where the proportion is at least double that in America; 65 per cent. were natives of the United States, 60 per cent. were Protestants, and only three inebriates possessed no religion. But 10 per cent. were uneducated, 25 per cent. had received a liberal education, and one in six had passed through a college curriculum. Ten per cent. were professional men, and a considerable number of the others were in affluent circumstances. The number of married females was five times as great as of spinsters. Of the total admissions, 67 per cent. were voluntary, while 33 per cent. were committed to the institution by a justice of the peace, or by process of county court, or (where property was involved) by order of the Supreme Court of the State. Insanity of parents was found to be one of the predisposing causes, but the principal predisposing cause was heredity. The proportion having impecunious progenitors was 44 per cent., the father being a drunkard in 35 per cent. There were 338 cases of habitual, as against 242 of periodical, inebriety. Contrary to what was naturally to be expected, the periodical form was not more common among the females than among the males. Seventwelfths of the whole number of both habitual and periodical drunkards had been addicted to their vicious habits for over ten years before seeking admission to the Home. In twenty cases, opium was also indulged in; and, in one case, chloral, in addition to alcohol. In fully five-sixths of the cases, the inebriate tendency manifested itself between the ages of fifteen and thirty-five, and in the larger proportion between fifteen and twenty-five. Injuries to the head were in excess of other exciting causes. Among the chief of these latter were social drinking habits, business and trade drinking customs, and nervous worry. Of the 600 cases under treatment 100 remained in the Home. Of the 500 discharged the history of 283 was known. Of these one-half were doing well, 26 per cent. relapsed or were unimproved, and 7 per cent. had died or had become inmates of the lunatic asylum, hospital, or almshouse. Of the 317 whose history was unknown it is reasonable to presume that a fair proportion had either been cured or benefited. The medical officer states that the practice in the institution for the last two years has been to prescribe alcohol only as a drug in a medicinal mixture, with a more satisfactory result than followed the previous method of administration in the form of beer, wine, or spirits. As a guarantee of the accuracy of these figures it is but fair to add that the president submits his annual report to the Legislature of the State of New York, in compliance with the provisions of the charter of the Home, which report is thereafter published.—*British Medical Journal*.

A recent visit to this Home has been described by Mr. Dawson W. Turner, D.C.L. (some time Student of Westminster Hospital and Charing Cross Hospital), in the *Temperance Record* (Nov. 20). He says:—"The mansion itself—which, for size and beauty, might have been one of the palaces of the New York Fifth Avenue—exhibited no outward sign of being a place of detention or an asylum, except in having all its windows, as I observed, strongly barred. After
delivering my letter of introduction to the medical officer in residence, I was obligingly shown throughout the whole building, and every question I had to ask was obligingly and fully answered. About half the inmates of the home—that is, about 150 of the patients under treatment—are committed on a magistrate's warrant for a term of not less than six months, for repeated acts of open drunkenness. I may not be quite right in this, but I think that the law in New York permits a policeman to apprehend anyone seen the third time openly drunk in the streets. For these 150 patients—the number is always kept full—the State, or county, make a subvention, though not one sufficient to pay the whole expenses of the patient. What is deficient is made up, and more than made up, by the payment of the other class of patients, those, that is, who come voluntarily, or who are brought to the asylum by their friends, and whose weekly payments varied, I found, from 5 dols. (that is, £1), to 15 dols., 20 dols., and in one or two cases to even 30 dols. a week. For these, the paying class, excellent rooms—one, two, or even three rooms—were provided, besides a drawing-room, billiard-room, library, and, I think, a ball-room. An excellent cricket-ground, of which I saw great use was made, and a lawn-tennis court, were provided in the fields outside the house, and under the trees in the park a good many of the patients lounged, or lay on the ground, chatting, reading, or smoking. The doctor, who showed me everything, particularly impressed upon me that everything was done to encourage all the inmates under his charge to take as much wholesome outdoor exercise as possible, and to amuse themselves, whenever the weather permitted it, with cricket, base-ball, lawn-tennis, and so on. The class of non-paying patients were, under more or less mild coercion, employed in the farmyards, field labour, the dairies, the gardens, the orchards, hoeing the potato, and Indian corn fields, and such like labour. Here and there I observed a few strong, active-looking men, better dressed than such a class of men would be amongst us, moving quietly about, and giving directions as to the work to be done, whom I guessed rightly to be the care-takers, directors, and guardians of the working class of patients. They wore no uniform, and seemed very quiet, steady, and unobtrusive, but plainly armed with authority and determined to keep order and to be obeyed. I thought them singularly unlike what we should call 'the keepers' in a Lunatic asylum. Three good meals a day, the doctor in charge told me that this class of patients had, with meat at every meal: their dormitory in the upper stories of the building, partitioned off into 150 little compartments, left nothing to be desired in the way of airiness, cleanliness and ventilation; and each patient whose age and health permitted it, was expected to take a cold bath, I think I understood, during the summer months, every morning. At the expiration of the six months they can be, if the medical man in charge considers that their cure is not complete, detained a further three, or even six months, or more, and great care is taken, after they have left the home as cured, to maintain a sufficient knowledge and supervision of them, as to be accurately informed whether their cure is permanent, or whether they are only considerably improved, or whether they entirely relapse. My last question to my medical friend at parting in the evening, after that I had seen everything, and dined with him and some of the patients, at 6 p.m., was the crucial one, 'What can you safely assert to be the percentage of the permanent cures you effect?' 'Well, Doctor Turner, with all the drawbacks of many of our paying patients leaving us, as they can do, at the end of the three months, though we would try and persuade them to stay longer, from a knowledge that their cure is not as yet fully effected, still, I am within the mark when I say that we perfectly, thoroughly, and permanently cure a good deal more than 50 per cent.'
THE USE OF ALCOHOL IN MEDICINE.

(From the British Medical Journal.)

During the sitting of the section of Public Medicine at the annual meeting of the Association in Worcester, several letters and memorials were presented, bearing on the use of alcohol in medicine. On the proposal of the president of the section, Dr. Alfred Carpenter, they were laid before the general meeting, with a request that they might be published in the Journal, which was agreed to.

1. “From the Gloucester Women’s Christian Temperance Union to Alfred Carpenter, Esq., M.D., President of the Public Medicine Section of the British Medical Association, 1882.

Dear Sir,—We have heard with much interest of the meeting on the ‘Public Medicinal Aspects of the Alcohol Question,’ which is to take place during the forthcoming Medical Conference, and, with all the friends of temperance, rejoice that it is to be held under your most able presidency.

Our deep sense of the evils which arise from intemperance—more especially our conviction that this intemperance has of late years been on the increase amongst those of our own sex in all classes of society—has emboldened us to join with others in pleading, through you, with the members of your noble profession for an increased care in regard to the medicinal prescription of alcoholic stimulants. It is through a belief that these drinks are essential to the maintenance of health, and under the plea of the ‘doctor’s orders,’ that many women fall by degrees into intemperate habits. We fully recognise in these cases the difficulties of the doctor’s position, and the injustice to which he is often subjected as to the way in which his instructions are carried out, or, perhaps, misinterpreted. But these very difficulties and this injustice, we would submit, call for the most thoughtful and conscientious care before the doctor allows his patients to be able even to quote his permission for their use of intoxicating drinks; and also indicates the great importance, whenever possible, of finding some substitute for these dangerous remedies. It is not necessary for us to allude to the deplorable results of female intemperance. It is because they are so terrible, so widespread, that we feel we are justified in making this appeal to the members of a profession whose influence, in enlightening the public as to the true nature of alcohol, far exceeds that of others.

And because we also remember that—through the Christ-like attributes of his profession, the doctor possesses no ordinary power to comfort, to help, and to protect, and that this power is often exercised with such nobility of self-sacrifice—we believe we cannot plead in vain for the weak and for the suffering amongst our sisters.

“Signed on behalf of the Women’s Christian Temperance Union, LOUISA BOWLY, President; ELIZABETH BAXTER, CAROLINE BROWN, Secretaries.

Gloucester, August 4th, 1882.

2. “To the President and Members of the Public Medicine Section of the British Medical Association to be held at Worcester.

“The memorial of the Plymouth Friends’ Temperance Association, showeth,—That the members of this society are anxious to put forth every effort to reclaim the victims of the drinking habits of this country. In this work, your memorialists often meet with the statement from those they would benefit that their present condition has resulted from the use of stimulants ordered by their medical attendants. Whilst fully recognising the right of the medical profession to use any means it deems necessary for the alleviation of suffering and the cure of disease, yet your memorialists..."
would earnestly and respectfully ask you to lessen the possibility of this excuse by limiting, as far as in your opinion is consistent with your patients' welfare, the number of those to whom intoxicating liquors are recommended.

"Your memorialists would remind you of the solemn responsibility which must attach itself to him who knowingly prescribes alcohol to a patient who has formerly been enslaved thereby, and who may now be free from its curse.

"In conclusion, they would pray that many members of your noble profession, rightly using the opportunities they have of influencing individuals, may earn the blessing promised in the words, 'Let him know that he who turns a sinner from the error of his way shall save a soul from death, and shall hide a multitude of sins.'

(Signed) "R. REYNOLDS FOX.
"President of the Friends' Temperance Association, Plymouth."

3. "To the President and Members of the British Medical Association.

"The members of the Plymouth, Devonport, and Stonehouse Ladies' Temperance Association have, in the course of their work during the past few years, become seriously impressed with the growth of intemperance amongst women of all classes. Instances have come under their notice in which women, who have at first taken stimulants under medical advice, have acquired an appetite which has led to the saddest results. They therefore venture to remind the members of the Medical Conference of the great need that exists for care in prescribing alcohol medicinally. The knowledge also that the influence of members of the medical profession is helping to stem the tide of intemperance encourages them to bring this important subject before the Conference.

"AGNES E. WESTON, President.
"M. C. F. pro A. M. RICHARDSON, Secretary.


"The members of the Women's Quarterly Meeting of the Society of Friends for the district comprehending the counties of Berkshire and Oxfordshire, held at Charlbury on the eighteenth day of the Eleventh Month, 1882, desire very respectfully to address the Medical Conference assembled at Worcester.

"While thankfully acknowledging the increasing caution of medical men in recommending alcoholic stimulants, we venture afresh to call attention to the sad prevalence of intemperance among women, who too often plead that such stimulants have been ordered by the doctor, and are needful for their health. We would earnestly request that when it is considered absolutely needful to order alcoholic remedies, they may be prescribed in fixed doses like any other medicine, and, if possible, not in the forms commonly used as beverages.

"Signed in and on behalf of the Women's Quarterly Meeting.
"CATHERINE FARDON, Clerk."

5. "From the Women's Quarterly Meeting of the Society of Friends in Yorkshire.

"The Women's Quarterly Meeting of the Society of Friends, consisting of representatives from all parts of Yorkshire, desire to call the attention of the Medical Conference to the prevalence of drinking habits among women of all classes. They beg respectfully to commend the subject of prescribing alcohol to the careful consideration of the Conference, and, whilst rejoicing in the smaller amount of stimulant now given by medical men, they cannot but feel it very important that, in cases where alcohol is required, it should be prescribed in the same way as any other medicine, and not indiscriminately recommended as a beverage.

"Signed on behalf of the meeting.
"HENRIETTA PRIESTMAN, Clerk.
"York, Seventh Month 26th 1882."
IS BEER IN INDIA A NECESSITY?

By Charles R. Francis, M.B.

It is a common belief in India that beer in that country is a necessity. There is a growing prejudice against spirits, but it is retained in favour of malt liquor. Various humorous illustrations of this fact might be given. A hale, hearty colonel, when complimented upon his good looks and youthful appearance, attributed them to mutton and beer. A lady, when invited by her dinner companion to drink a glass of wine with him—a custom in vogue thirty years ago—expressed a preference for beer. An erudite looking and handsome young officer attracted considerable attention at a dinner party by his very pleasing exterior. The illusion was dispelled when, after drinking his first tumbler of sparkling bottled ale, he exclaimed, “The man who invented beer deserves to be knighted.” Dr. L—had such faith in the remedial properties of bitter ale that once, when taking a two years’ tour of duty at a Sanatorium in the Himalayas, he prescribed little else for his patients, maintaining that it was far better than any medicine.

The immediate exhilarating effect of a glass of brisk bottled beer in India, when one is exhausted and spiritless, and infusing, as it does in most cases, renewed life and energy, is so striking that we cannot be surprised at the almost universal popularity of the beverage—“tired nature’s sweet restorer, balmy (not sleep but) beer”! And medical practitioners, as well as all experienced in the country, have not been slow to recommend it to newcomers. Even the most moderate have urged that a lumba
pyala\* or two, or small bottle (10 ozs.), of beer at dinner was desirable. How frequently in moments of enthusiasm—the outcome of a tumbler of Tennent, Allsopp, or Bass—has the eulogy been uttered, "Bread may be the staff of life at home, but it's beer out here." For the army beer is strenuously advocated in the place of rum, whose deleterious effects are freely recognised; and the Government has always endeavoured to obtain a genuine reliable supply for its troops. Some thirty years ago, in the reign of Lord Dalhousie as Governor-General, a consignment from England of 20,000 bottles of beer was condemned by a committee, and thrown, under Government orders, into the river. The demand for beer is so steady and continuous that its manufacture has been (and is) carried on, on a large scale, in India as well as in Europe; and large fortunes have been made. At first sight it seems to be, within limits, a beverage well suited to the country.

With reference to the presumed nourishing qualities of malt liquor it may be well to consider, en passant, in what the art of brewing consists. A certain quantity of barley is put into a cistern of water and there allowed to soak for forty-eight hours; when the mass is taken out and heaped together in view to generation of heat, and germination; but, at the end of thirty hours, in order to prevent the heat from becoming excessive, the heap is broken up and the grains distributed over floors prepared to receive it. Here it remains for about twelve or fourteen days, during which period the process of growing is continued, as seen by sprouts, representing the future root and stalk, protruding from either end of the grain which, at the end of the time specified, is put into the kiln to be dried. Then the sprouts (known also as buddings or sprits) are rubbed off, and the barley—its starchy constituents having been converted into sugar and now become malt—is ready for the brewer. During the operations here described about 20 per cent. of nutriment is lost from the barley. The next operation—the art of brewing—consists in adding to the malt water of a certain temperature, not too hot, as in that case there would be coagulation, but just warm enough to extract the saccharine matter which, undergoing vinous fermentation, is converted—the greater part of it—into alcohol, the intoxicating constituent of the fluid, which is drawn off as malt liquor; whilst the heavier portion of the mixture, wherein resides whatever nutriment is left, sinks to the bottom, and is given to the pigs. The beer is more or less "up" according to the amount of carbonic acid or "fixed air." Much of this gas is allowed to pass

\* A claret glass of the old fashion.
Is Beer in India a Necessity?

off; and it requires some skill to impregnate the malt liquor with just so much as is required, and no more. It is considered by the uninformed an advantage to have the beer "well "up." To a certain extent it is, as the beverage thus acquires a briskness that acts like soda water; but if in excess, this may be indicative of fermentation still continuing,* which, if prolonged into the stomach, will not benefit that all-suffering organ—to say nothing of the drinker not caring to have his beer "all froth." Economical persons, who divide a bottle of beer between tiffin and dinner, put a teaspoonful of sugar or rice—the former is best—into the half that is left, cork the bottle, and place it somewhere, not on the floor,† bottom upwards. Further fermentation takes place, and the beer is sufficiently well up when next wanted. Hops are used partly to enable the beer to "keep;" and partly to flavour it. A moderate amount of bitterness is pleasant enough; but this may be, and often is, overdone, whereby the narcotising effect of the alcohol is increased without otherwise improving the beverage. Hops are said to be astringent; but this character does not appear in India, bottled beer being, there, supposed sometimes to have rather a purgative effect. Isinglass, dissolved in tartaric acid or sour beer, or in weak sulphuric acid, is generally used for fining, though other materials are sometimes employed. This last (isinglass), with malt, hops, and water, are the four ingredients which may be legally used in brewing. Beer may be brewed from molasses (from which rum is usually made) or from sugar; and sugar is sometimes added to increase the fermentation, i.e., to make the beer more "up," and to give body. Quassia or gentian, useful enough so far as they go as tonics, are sometimes used as substitutes for hops; and occasionally, it is to be feared, materials are introduced either to increase thirst—salt for example—or to narcotise; though I believe I may say with confidence, that the bottled beer imported into India is, as a rule, free from extraneous ingredients, except perhaps residual, or superadded, sugar; and quassia instead of hops; and that it is not so rich in alcohol as in former days. This last remark applies especially to Bavarian beer. What happens after arrival in the country I will not undertake to say. The sourness of beer is due to "acetous fermentation," which has been caused by ex-

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* Beer intended for exportation to India in bottles, must be from eight to twelve months old. If bottled when new, it will become so brisk as to burst most of the bottles.

† The floors of the lower rooms in India are usually covered with chunam (or plaster of Paris), and contact with it is supposed to make the beer flat; but, as this very article is sometimes mixed in the water (where it is deficient) used for brewing—the object being to neutralise any tendency to acidity—the validity of the objection seems to be somewhat doubtful.
posure. Some of the spirit has absorbed oxygen, and been turned into vinegar. Where beer is cloudy, this is probably due to a second fermentation.

The following tables* will show at a glance the materials required for, and the result of, brewing:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Chief Compounds in Beer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malt.</td>
<td>Alcohol, or spirits of wine, from 3 to 8 per cent.</td>
</tr>
<tr>
<td></td>
<td>† Dextrine, about 4½ per cent.</td>
</tr>
<tr>
<td>Water.</td>
<td>Albuminoids, 0·5 &quot;</td>
</tr>
<tr>
<td>Hops.</td>
<td>Sugar, 0·5 &quot;</td>
</tr>
<tr>
<td>Yeast from a previous brewing.</td>
<td>Acetic and succinic acids, 0·3 per cent.</td>
</tr>
<tr>
<td></td>
<td>Carbonic acid, 0·15 per cent.</td>
</tr>
<tr>
<td></td>
<td>Mineral matter, 0·3 &quot;</td>
</tr>
</tbody>
</table>

Here it is seen that the nutriment of the malt has been converted into the stimulant—alcohol. Whatever nourishment there may be is of a saccharine nature, the dextrine when in the stomach becoming converted into sugar. Of the two necessary nourishing elements—the nitrogenous and the carbonaceous—the former is practically wanting; and of the latter there is not enough to justify the use of malt liquor for the sake of it. The chief difference between porters or stouts, and ales, consists in the malt from which the former is made having been more highly dried.

An imperial pint (20 ozs.) or, so-called, quart bottle contains as under:

<table>
<thead>
<tr>
<th></th>
<th>Alcohol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>London stout</td>
<td>1 74</td>
</tr>
<tr>
<td>Porter</td>
<td>1 10</td>
</tr>
<tr>
<td>Pale ale</td>
<td>1 12</td>
</tr>
<tr>
<td>Strong ale</td>
<td>2 18</td>
</tr>
</tbody>
</table>

Brewing in India is attended by many difficulties. In the first place, it can only be attempted in the cooler temperature of the Hills; and suitable water, like that at Burton-on-Trent,† where much of the beer exported to India is made, is not readily available. Barley may be grown, though to a limited extent, and malt made, on the spot; but hops, the flower of which is injured by the rains, must be imported. Therefore, and as the supply is quite insufficient to meet the demand for the army, even if the cost did not

* These particulars are obtained from the "South Kensington Museum Science Handbook"—article Food. Prepared by A. H. Church, M.A. Oxon, Professor of Chemistry in the Agricultural College, Cirencester.
† A soluble gum, intermediate between starch and sugar.
‡ Very popular beer, both bottled and in cask, is exported by Messrs. Flower, of Stratford-on-Avon. Beer in cask; which should always be new beer, must be used quickly after arrival. If this cannot be guaranteed, bottled beer must be sent; but this is the most expensive plan.
render it almost prohibitory in that quarter, and as it is not universally popular, it is found (I believe) that Hill beer does not pay. It is generally highly fermented, sweetish and strong, with a taste like that of Edinburgh ale.

Thus, then, we see that there is a mere modicum of nourishment in malt liquor, whether it be beer, ale, or stout, bottled or on draught.

Beer drinkers in India may be divided into two classes: (1) the strictly moderate; and (2) they who profess to drink nothing else; but who drink it freely (!), deluding themselves with the fallacious idea that, as malt liquor contains no spirit, they may do so with impunity.

Those in the first class never exceed the physiological modicum of beer, often indeed taking much less; so that the effect upon their systems of the contained alcohol is, practically, nil. The enormous quantities that have been consumed at a sitting in past times by those under the second head would be beyond belief, were there not, now living, witnesses of the fact. I have myself seen a dozen imperial pint bottles quite easily disposed of by a "seasoned vessel" in one day—six at tiffin (luncheon), and the same quantity at dinner, without apparently any ill consequences ensuing. But, for wagers, a six-dozen chest has been emptied in the twenty-four hours, and the individual has seemed none the worse for it. Such feats, however, are quite things of the past; still, unnecessarily large quantities of beer are consumed during the day. When a glass of sherry, or a cup of tea, would be offered in this country to a visitor, in India the beverage amongst men would probably be beer. If the visit were prolonged, more than one bottle might probably be opened. A glass of beer and a "smoke" are looked upon as promoters of good fellowship in that country. Persons who thus quench their thirst, or keep up their spirits at social gatherings in beer taken at odd hours and between meals, would be horrified if it were hinted that they seemed to have a taste for the bottle! They only take beer, and they take it openly, they say; adding that they don't drink alone: they are not by-drinkers. Alas! alas, bad as such a practice is, and leading as it must in due course to weakened nerves, to dyspepsia, or to one or other of the various disorders induced by alcohol—coupled, it may be, with premature obesity, if not with fatty degeneration of some important organ,—these frequent draughts of beer are apt to engender a craving for something stronger than it; and so the drinker of only beer may degenerate into the consumer, on a large scale, of brandy panee* or of brandies and sodas.

* Brandy and water.
The mere act of drinking anything is, in the hot season in India, followed by a burst of perspiration—refreshing enough for the moment, but—apt to be followed by increased thirst, which, if indulged, and the fluid be alcoholic, too frequently leads to the development of a fatal dipsomania. The bottled beer sent to India, though less alcoholic than formerly, as well as that made in the Hills (which, as just stated, is generally much stronger), is as a rule more potent than the home-brewed malt liquor to which most youths at home have been accustomed. As a student I had been, from a natural dislike to alcohol in any shape, practically an abstainer,—rarely taking more than a single glass of mild beer at dinner; and I well remember the effect upon me of a tumbler of "Bass," that was very well "up," at a mess tiffin in Barrackpore, in the month of May, very shortly after my arrival. My whole system, after I had drunk it (which I did in the orthodox fashion, viz., at a draught), seemed to be on fire. "Seasoned vessels" at the table took more, of course: but that glass was enough for me. The same evening I was in a burning fever. I had strolled out, in the afternoon with other officers, and had gone too near a malarious piece of water. One other officer had a similar attack, but much lighter; and I have always felt that mine was aggravated by the fiery liquid, to which I was quite unaccustomed. As time, however, wore on, and the climate began to tell, I got to like—nay, to thoroughly enjoy—my bottle of beer (only a small one!) at dinner. It was—so to speak—the staple of the meal: the one thing in a hot forenoon that I looked forward to. How I husbanded the (self) prescribed allowance? And yet, knowing what I now do of the real value of bottled beer in India;—I had taken it for granted that it was a necessity; everybody said so; it was the fashion;—looking back upon the circumstances and surroundings at various periods of my Indian life;—the extreme prostration when it was almost an exertion to be alive, with a temperature day after day for three consecutive months of 90° in the sitting room;—the fatigue and exhaustion consequent upon protracted physical exertion, with the perspiration streaming from all parts of the body;—the convalescence after fever, with the intense longing for a glass of beer, which, it was confidently felt, would put new life into one;—the time when a "peg"* has apparently staved off what might have been a serious illness, as when passing through a malarious tract;—looking back upon it all, I feel convinced that as good, and in some cases even better, results would have been obtained by a cooling drink, or, where nourishment was needed, a tablespoonful of malt extract in a glass of aerated water. The taste for, and dependence upon,

* Brandy and soda water.
beer has, however, become so deeply rooted in the European mind in India, that more than one generation will pass away before much change of opinion can be expected.

A Hindoo probably attains the summit of—to him—human happiness in his daily life when, having made a huge meal, and smoked the ever present hubble-bubble,* he rubs his body over with oil, and, stretching himself at full length by the side of some sacred stream, he sees himself shine! So, probably, the most satisfactory moments, physically speaking, in the life of the European settler in India are those when, having made a hearty breakfast, he throws himself back in his arm-chair, and with a cheroot or pipe in his mouth, devotes the next half-hour or so to a chat with his friend, or to contemplation. I was once seated at the hospitable board of an indigo planter, who—a vigorous young man, in rude health, hard (as the saying is) as nails, he had not been long in India—ate with infinite gusto the amplest and most varied breakfast I have ever seen consumed in any country, and which he diluted, not with tea or coffee—no such inoffensive beverages for him—but with two successive tankards, each containing about thirty ounces, of strong ale from England. It is true he had got up at daybreak, and, for several hours, had been superintending the work on his estate, taking, perhaps, a biscuit only and a cup of tea before leaving the house. Notwithstanding, for a tropical climate—it was in the plains—such a heavy meal was quite unsuited; and, but for the accompanying stimulant, would doubtless have caused some uneasiness, at any rate, if not then in the heyday of youth, in the years to come, when such liberties would be resented by the “minister of the interior.” It is customary to point to planters as illustrations of the existence of health and longevity under unfavourable influences—to wit, uncommonly free living, a liberal allowance of alcohol, and exposure to the sun in the hottest season. But what of those who have succumbed in the process? This is an element which, as in similar calculations, is too frequently lost sight of. The fittest only survive. They, who are triumphantly adduced as living arguments, showing the fallacy of the doctrine of total abstinence, have been fortunate in withstanding the evil influences under which others have gone down. Moreover, planters in the present day are often comparatively moderate men; they live with greater care as they advance in life; their habits are regular; they do not indulge in debilitating excesses; they take plenty of exercise, and they are much in the open air.

Referring to the general improvement in the health of Europeans in India during the past forty years, it is evident that the

* Hookah, on a small scale.
high death-rate prior to that period must have been attributable
to something more than mere climate, which has not changed.
During the seventy-four years* ending in 1838, of 2,140 medical
officers, who entered the Indian service, there died in the
three Presidencies 890, or more than 41 per cent.; whilst 276
only, or about 13 per cent., lived to retire. The remainder
either resigned—a euphemism in many cases for being requested
to withdraw—or were struck off; or met with violent deaths.
A few gave up promotion, preferring to settle, in the country, on
estates which they had acquired.
The advocate of total abstinence is frequently asked, “What
then do you recommend; for I cannot possibly drink raw water?”
We must bear in mind that, whereas in temperate climates
the sensation of thirst, often merely the result of dryness of the
mouth and soft parts about the throat, may be removed by an
acidulated drop, in India it is more frequently caused by a real
want; some compensation is required for the quantity of fluid
withdrawn. What shall it be? The secretion from the skin—
known as perspiration,—which is drained away from the body
through a system of drainage tubes covering a surface of some
two or three miles, is usually, in the hot weather, very great. Its
value in helping to reduce the temperature of the blood, and in
eliminating a large quantity of effete matter, which when retained
causes illness, is incalculable. And it is not necessary to supply
the place of what is withdrawn to the extent usually supposed;
a small quantity of fluid will suffice. Water exists in the
secretion perspired in the proportion of 995.379 parts in 1,000.
Water therefore is the obvious substitute; and the natives of the
country—those who cannot afford to flavour it with anything—
drink nothing else. Amongst the higher classes—the Mohamedans especially—the favourite drink is sherbet, a word of
Arabic origin. It consists of water, flavoured with lemon juice,
and sweetened with sugar. The citric acid in the lemon is a
pleasant refrigerant and thirst-quencher. Cold tea is coming a
good deal into fashion with Europeans who abstain from alco-
holic beverages. I prefer it to any other drink for India, whether
seated before a thermos in the dry hot season, when the very
crows are gaping for air; or out in the jungles after tigers in the
month of May; or during an oppressive night in the rains, when
the hum of the mosquito, set apparently to the tune of, “I smell
the blood of an Englishman,” acts as a soporific on the punkah-
pulling coolie. But, it will be urged, there is no nourishment in
sherbet or cold tea. I have already endeavoured to show that
there is none worth speaking of in beer; but why should this

* Compiled from Dodwell & Miles’s Register.
quality be so much insisted upon? Persons in health require nothing more than what is provided at the several meals of the day, when, moreover, there is an ample supply of water in the food itself. But, granted that, in a depressing country like India, a nourishing beverage is a desideratum, we have it in a highly concentrated form in the malt extracts which, if well made, are rich in diastase, phosphates, and albuminous matters; we have it, in short, in that which,—now a flesh-forming and sustaining food,—had the malt passed through the hands of the brewer, would have been converted into an injurious and intoxicating fluid. Employers of labour in England find that the strength of their men is better maintained by an infusion of meal in boiling water, the mixture being, after cooling, sweetened with sugar, than by beverages containing alcohol. The very essence of the meal, which occupies comparatively but little space—an important consideration in transporting to distant countries—is offered in malt extracts. Some of these preparations are obtained from barley alone, which is, par excellence, the grain that, as prepared by the brewer, becomes malt; but as wheat and oats, the former especially, contain more albuminoid material than it, that should obviously be the best which is prepared from a mixture of all three. I would, therefore, recommend maltine, which is thus prepared. A tablespoonful contains more true nourishment than pints of the strongest beer, ale, or porter, in which is mostly what is saccharine only; and, as a substitute, therefore, for either of these, it is obviously admirably adapted. The quantity mentioned may be mixed with simple or aerated, water, and taken, if anything stronger than water be then required, at meals. In depressing and exhausting weather, or in cases of debility, a similar quantity might be taken three or four times a day; and then, milk from one’s own cow or goat is a good vehicle.

Combinations of malt extract with other articles, as beef, pan-creatinine, phosphates, iron, quinine, cod-liver oil, &c., will be found very valuable for India; but they should not be taken except under medical advice. The same may be said of zoedone, which contains phosphorus, lime, potash, and iron; and of the other temperance drinks which are coming into fashion.

Many total abstainers in India are, however, content with pure water, and when this is iced, there can be no greater luxury in the hot weather. But the objector may point to the uncertainty of obtaining water pure in India. It is perfectly true that the germs of various diseases have occasionally existed in drinking water—village water is always suspicious—and it is, therefore, safer to boil and filter it. It is generally thought that brandy will destroy animalcule, and other disease germs; but the quantity required to do this would convert a beverage into an antiseptic
fluid composed of liquid fire and water; and, moreover, there is nothing so effective as boiling. The briskness of the water lost in boiling is to a great extent restored by exposure to the air, when carbonic acid becomes absorbed. Where boiling cannot be had recourse to, as on active service, on sporting expeditions, or even sometimes when travelling, Condy's fluid, in the proportion of eight or ten drops to four large bottles of water, will often do as well. A pocket carbon, or magnetic carbide, filter with tubing, should always be at hand. For household purposes three earthen vessels, one above another, are fixed in a wooden stand, and placed usually in one corner of a side verandah. The two upper—half filled with sand and charcoal—are perforated in the bottom, and the lowest vessel contains the water thus purified. The same principle is adopted by the companies who supply Thames water, communicating tanks (with sand) being contiguously placed at different elevations. The sources of the drinking water supply are very varied in India; great care should, therefore, always be taken to secure the purest. Whilst much of the well-water, for example, can scarcely escape impregnation, owing to the situation of the wells, that which is obtained from neighbouring wells, which are more favourably located, are above suspicion. The well-water in the city of Delhi, and that from the neighbouring heights, is a striking illustration of this truth. But, however pure water may seem to be—it may even be sparkling—boiling and filtering should never be omitted.

Let us now consider the possible disadvantages of drinking beer, even in moderation, in India. The danger of excess in alcoholic beverages, more or less great in all climates, probably reaches its maximum in a hot one. There, alcohol seems to justify the application of the name given to it by the chemists of the past, who, from the fact of its burning away and yielding no trace of its composition, except a few drops of moisture deposited on a white saucer held over the flame—the inferior carbon-containing kinds of alcohol were not so much in existence, if at all, in those days,—termed it "fire water." The water-drinking natives would as soon think of drinking alcoholic fluids to quench thirst as they would of, voluntarily, crossing the sea! Alcohol is forbidden in the Mohammedans' bible—the Koran: and, amongst Hindoos, the lower castes take it only for the express purpose of becoming intoxicated, not because they are thirsty. Europeans, from habit, take it kindly; but all must acknowledge that, at first at any rate, the effect is not quite the same as in Europe—in that it rather increases that which it was intended to allay.

The value of the lungs as eliminators of carbon from the system is well understood. In temperate climates they act freely, and to
the fullest extent to which they are capable. In the hot weather in India, as the atmospheric air is day by day more rarefied, their function becomes correspondingly diminished; and, owing to comparative lack of use, they lose capacity and weight. This has been proved by actual experiment. The skin may be in full vigour; but, as it cannot, as a matter of fact, take the place of the lungs, we must look to some other organ that will, e.g., the liver. The reduced activity of the former, and the heat combined, frequently induce an increased secretion of bile, which is carried off through the intestinal canal in the form of what is familiarly known as “bilious diarrhoea.” Nature, from her storehouse, thus strikes the balance; and, if Europeans would regulate their mode of life in harmony with her laws, all might be well. But even the professedly moderate are apt to do things which cannot be done, as in England, with impunity; and very many live at a higher pressure than at home! As in this country the respiratory passages are for the most part the weak point, more likely to suffer from exposure to cold than any other, so in India the liver and intestines take their place; and, in one way and another, the former becomes, in course of time, more or less unable to act vicariously for the lungs. Consequently, that which should be eliminated by either, or both, of these emunctories is retained in the system, and fat accumulates—the individual becoming obese; or, what is far worse, fatty degeneration is set up. Fatty degeneration, which has attracted so much attention during the last half-century in Europe, is a frequent cause of death, and especially of sudden death, in India. In an excellent paper, published in the tenth number of the “Indian Annals of Medical Science,” Dr. C. N. Macnamara has shown what a remarkably high death-rate in the European Army in India was when he wrote—some thirty years ago—due to fatty degeneration. An entire regiment was changed by it through death and invaliding in ten years.

This pathological condition is common amongst the men of a European regiment, because they are apt to eat too much carbonaceous food, to drink too freely, and to sleep all they can by day as well as by night in the hot weather, without at the same time taking sufficient exercise,—thus favouring the inevitable deposit of fat resulting from the growing inactivity of the lungs. The officers, on the other hand, though they, too, may partake too freely of the so-called pleasures of the table, have the good luck to get away on leave to the Hills, or on sporting excursions, when they burn away all the extra carbon. The free living planter, too, being much in the open air, and taking an abundance of exercise, similarly gets rid of much of his carbon. European and Eurasian loafers who have been but a few years in India, and who are to be seen lounging about in the back slums of our
large towns, are very subject to fatty degeneration, brought about by excessive indulgence in pork, as well as in country spirit, which contains, not the pure ethylic alcohol, which is comparatively free from carbon, but the amylic variety, known as fusel oil, and in which this is more abundant.

Malt liquor also favours the retention of carbon, owing to the saccharine matter which it contains. That which in England may obtain for a huge ox fattened up with oil cake an agricultural prize, may in another form lay the foundation in India of "sudden death from a fatty heart."

Practical men will reply to all this, "Excess will doubtless do the harm you speak of, but not moderation; mild beer is the best drink for India." We reply, "There is always a risk in alcoholic beverages, be they ever so poor in alcohol; a risk which is intensified in India. If it can be avoided why should we incur it"? Moreover, these beverages not being needed, as shown by so many soldiers—some 20,000—being better by abstaining from them, why should we continue to indulge in the use of what, even in moderation, in the eyes of a nation of water drinkers brings a reproach upon Englishmen; whilst the excess, which too frequently succeeds moderation, more than anything else prevents that which we all have so much at heart, viz., the moral and social progress of India.

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THE MORTALITY FROM ALCOHOL.*

By Thomas Morton, M.D., Kilburn.

The recent publication, by the Harveian Society, of a Report on the Mortality from Alcohol, which may be studied in the pages of the British Medical Journal, seems to make it a good opportunity for us again to take up the subject, which has occupied us before, and than which none can be more appropriate to a Medical Temperance Association.

It is necessary from time to time to keep the subject before the public and even the profession, as I believe the most inadequate views yet prevail, even within the profession, as to the injury caused to the health of the community by the abuse of alcohol.

Total Abstainers are often represented as prejudiced, but my share in the preparation of this Report has made me aware of a

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* Read to the Members of the British Medical Temperance Association, Feb. 20, 1883.
degree of prejudice on the other side which is perhaps natural
enough, but which it will take some time and trouble to remove.

I think the publication of the Harveian Society’s Report will
conduce materially to the desired result, because it emanates not
from a temperance society, or a temperance man, but from
an impartial public body of good standing, and will therefore-
command a hearing both from the profession and the public.

Apart from this, as I think, very important consideration, I am
not sure that this Report carries us forward to many conclusions
which we had not already ventured to assert. What it does is
rather to give them a sanction and a certainty which they did not
before possess, and to carry them out into more precise detail.

For, the collection of facts upon which the Report is based is
so large—10,000 cases, or one-fourth of the annual mortality of
London—and gathered with so much care from various sources
so as to be a fair representation of the London mortality, that
conclusions fairly drawn from it rest upon a very strong founda-
tion indeed.

And the first, and in my opinion most incontestable, of those
conclusions is, that 14 per cent. of all the adults who die in
London have injured their health more or less by alcoholic
excess. This would imply a total of nearly 39,000 such persons
annually in England and Wales, or about 52,000 for the United
Kingdom; and it is remarkable how closely this agrees with the
estimates arrived at already, and more especially by Dr. Norman
Kerr, who has led the way in inquiries of this sort. It is of
course possible that the proportion may not be so high out of
London, but I do not believe there is any material difference.

It must be remembered that this computation, although I know
it to be strictly moderate, is in one sense a maximum, that is to
say, it is inclusive, and takes in all adult deaths which alcohol
has had any share in directly causing. If it be attempted, as
the Harveian Society has attempted, to draw a line between those
who have merely injured and those who have so completely
ruined their health that they may be said to have died wholly of
drink, the latter category will of course be found much smaller
than the former; not amounting, probably, to more than 4 per-
cent. of the adult deaths. The line, however, is a most difficult
one to draw, and the report does not attempt to do more than
indicate the limits within which it lies. Still the distinction is a
real one, and in this limited sense it cannot probably be said that
more than 15,000 persons die annually of drink in the United
Kingdom, principally by cirrhosis of the liver with ascites or
hæmatemesis, kidney disease, delirium tremens, alcoholic poison-
ing, mad and prolonged bouts of drinking, or accidents occurring
in a state of intoxication.
The Mortality from Alcohol.

There is another sense, however, in which the larger figure, 14 per cent., is not inclusive, but exclusive; I mean in relation to what may be called the indirect mortality from alcohol, the enormous loss of innocent lives entailed by poverty, neglect, or accident upon children of tender age, upon wretched wives, upon all sorts and conditions of men, by the drunkenness of parents, husbands, fellow-workmen, fellow-travellers, and others upon whom, in a complex society, their welfare or safety comes in some way to depend. This is a question, however, rather for social than for medical science, and I do not propose to do more than allude to it in passing. No serious attempt, so far as I know, has yet been made to estimate its amount with anything like precision, and the Report does not touch the question.

The proportion in which the mortality from alcohol is distributed between the two sexes is a matter of considerable interest, and we are now, I think, able to say with an approach to certainty that about nine men die of drink to five women. If we might assume that there is no difference in the male and female constitutions as regards the power of resisting the ill-effects of alcoholic excess, these figures would also serve fairly to measure the degree in which the two sexes are relatively addicted to such excess. What we know, however, of individual—and I believe we might add race—differences in this respect certainly raises the presumption that there may be a considerable difference as between the two sexes. If there is any difference it is probable that the female constitution is the more vulnerable of the two, and we should not therefore have to admit that so many as five women are addicted to excess for every nine men. I trust we need not, for anything like such a proportion would be very serious to contemplate. If anything can be more disastrous to a community than the intemperance of its men it is that of its women. The peace and stability of the home is greatly more imperilled by the intemperance of the wife than of the husband, and the home is after all the unit and the microcosm of the nation.

The figures at our command enable us to pursue the question a little more into detail, and they are rather curious. The proportion of nine to five does not hold good throughout the 14 per cent. of deaths referable to alcohol, but those partially caused by it give a ratio of two men to one woman, while the more closely selected 4 per cent. of deaths wholly due to alcohol only yield three men to two women. The difference is striking, and cannot be accidental in figures so large as those which are presented to us. Either the greater vulnerability of women, supposing it to exist, causes them, when they succumb at all to the effects of alcohol, to show its ravages in a more marked form, or the intemperance of women, when it does exist, is more apt to take a
pronounced type than that of men. I am inclined to give some weight to both these causes, and the point well merits discussion.

Another point, already familiar, upon which a little more precision has been attained, is the age reached by those who have injured their health by alcohol. Certain exceptionally constituted persons, as is well known, may drink enough to injure their constitutions and yet attain a pretty advanced age. There is now some evidence that these form about 7 per cent. of the whole. The same statistics, however, yield decided evidence of the comparatively early age at which, upon the whole, deaths from drink occur. Two-thirds of the less characteristic and three-fourths of the more exclusively alcoholic deaths occurred at ages between thirty and sixty, whereas the normal proportion, even at five years later, is only one-half.

There is much to be gleaned from the Report as to the modes of death among intemperate persons, but I have only time to touch upon one or two points.

The first is the immense preponderance of disease of the liver and allied organs. We were of course all aware of this, but I should hardly have judged that it would prove to account for 22.4 per cent. of the deaths of intemperate persons, and actually 38 per cent. of the most characteristic class. It may be shown from the figures in the Report that, apart from the effects of alcohol, the deaths from liver disease would not amount to 1 per cent. of the deaths from all causes.

Diseases of the kidney also are among those in which the influence of intemperance, as is well known, shows itself most decidedly. In point of fact the death-rate from these disorders among the intemperate is found to be just double what it is among the general population.

The case is very different with regard to diseases of the respiratory organs, and some curious points come out in reference to them. With the exception of the more acute disorders—pneumonia and pleurisy—the whole class shows a diminished death-rate among the intemperate, as to the existence of which there can be no doubt, though its interpretation is by no means so clear at first sight.

The facts are seen very plainly in Table III. of the Report, which shows that, whereas the class of bronchitis, asthma, emphysema, and congestion of the lungs accounts for 15.5 per cent. of the adult mortality of London generally, it only comprises 8.4 per cent. of the deaths among intemperate persons; and, similarly, phthisis, the scourge of our population, which accounts for no less than 19.2 of all the adult deaths, is only answerable for 13.1 per cent. among the intemperate.
Are we to conclude, contrary to what would, I think, be the impression of most practitioners, at least with regard to phthisis, that excess in alcohol rather checks the development of these diseases and is protective from them; or do the figures admit of any other interpretation? I think they not only admit of it, but suggest and indeed almost demonstrate it. When closely examined they seem to prove too much. The percentage under the class (C) which contains the heaviest drinkers is lower, very much lower, than under the less exclusively alcoholic class of deaths (B); and that not only in the case of bronchitis and phthisis, but in the case of pneumonia and pleurisy also. Now, pneumonia and pleurisy account for 3·8 per cent. of the adult deaths in London, whereas the rate among drinkers generally rises to 57, so that there can be little doubt as to the unfavourable influence of alcohol in this case. When, however, we take only the heaviest drinkers, constituting class C, we find the rate as low as 2·8 per cent., although we should find it as high as 7 per cent. among the less deeply dyed alcoholics of class B.

The apparent paradox is easily explained when we consider that the former class (C) is loaded with 150 cases of liver and stomach disease instead of 16, which would be about the normal proportion, besides 78 avowed cases of "D. T.," "excessive drinking," and "alcoholism" pure and simple. Is it not obvious that, if these be subtracted, there are not enough left, out of the 397 cases which make up the class, to furnish the proper tale of deaths from pneumonia?

And, having once grasped this, it is easy to see that the same reasoning really applies to the decrease of deaths from phthisis and bronchitis, although, owing to there being some decrease under both classes (B and C), it is less evident at first sight. The heavy demands of these exceedingly common diseases cannot be satisfied after alcohol has exacted its tax in the shape of liver, kidney, and brain disease.

Intemperate persons seem to die of phthisis at somewhat later ages than the general population, and this raises a different question, of which I am not prepared positively to suggest a solution; but I would point out that a distinct variety of phthisis has been described by Dr. Richardson as occurring among hard drinkers at a somewhat later age than is usual in this disease.

The same considerations which I have advanced with regard to lung diseases will serve in some measure to explain the still stranger fact that heart disease also has an apparent lower fatality among intemperate persons. Heart disease is one of the largest heads of adult mortality, accounting for about 10 per cent. of the whole, and the displacement of ordinary mortality by purely
Substitutes for Brandy.

alcoholic disease is sure therefore to tell appreciably upon it. But there is another and more subtle source of error in the circumstance that muscular degeneration and dilatation of the heart, which is much more commonly than valvular disease a result of alcoholic excess, is much less fully recognised as a specific cause of death in the returns. This is due partly to its being less easily diagnosed, and partly to its being less often an independent or principal cause of death than a contributory or subordinate one; and considerations such as these, based upon the practice prevailing in the certifying of deaths, should be constantly present to our minds in interpreting figures such as those of the Report.

On the whole, however, it is a document which merits, and will well repay, careful study, and which, till it is superseded by some still more extensive and careful inquiry, will be of considerable weight on the subject of which it treats.

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SUBSTITUTE FOR BRANDY.

By J. James Ridge, M.D., B.S., B.A. Lond.

It is both impossible and unwise to ignore the fact that there is a most profound conviction in the public mind (to say nothing of the profession) that spirits, and especially brandy, are of tremendous value in many diseases, both chronic and acute. In illness of almost any kind, and in sudden illness as a matter of course, the brandy bottle is resorted to with implicit confidence. This idea of its value has been prevalent for many generations, but has been more particularly encouraged of late years by the action of the profession itself. Not many years ago the use of large quantities of stimulants was part of the usual routine of treatment, and though it is not quite so common now to administer such enormous amounts, yet it is still so general to prescribe these things that the public are not likely to lose faith in them very soon by the action of the profession. And it is not alone by the medical men who are either opposed or indifferent to the temperance movement that this prejudice is confirmed. The language frequently employed by medical abstainers must of necessity tend to encourage the same notion, and when such men recommend the use of alcoholic liquors, a much greater value is, a fortiori, attributed to them. The public naturally consider that these temperance men would never order such things were they not absolutely indispensable and of supreme value. Even when brandy or its congeners is rarely or never administered, the
language employed about them is quite enough to confirm the same prejudice. For they are spoken of as means which are to be resorted to in the severest and most extreme cases, when other measures have all failed, as though alcohol were the most powerful of all remedies, and able to save life when all other means are useless. Hence arises a very sensible desire to employ such a powerful agent before this critical point is reached, and the notion is entertained that a doctor is wilfully risking his patient’s life if he neglects or refuses to employ alcoholic liquors. Certainly no prejudice on the part of the doctor against employing alcohol would justify him in refusing to give it if it is a fact that alcohol is the only thing which will save a patient’s life, or is the best remedy for the purpose. But even then the medical man would not be justified in giving brandy or other spirits if it were possible for him to get pure alcohol.

It ought, however, to be carefully borne in mind that this idea of the value of alcoholic liquors has a very uncertain foundation. It is based solely on the belief which has been entertained that the administration of alcohol has been the *vera causa* of the patient’s recovery. In certain cases an improvement in the symptoms has set in after the alcohol has been administered. What would have happened had the alcohol been withheld is beyond human knowledge, but, unless the experiment is made in a sufficiently large number of similar cases, and fatal results are then more frequent, no one has a right to assume that the alcohol has anything to do with the recovery. The data are at present far too few, but it may be confidently stated that whenever a series of cases, treated without alcohol, can be fairly compared with a similar series treated with alcohol, the *sine* alcohol recoveries are not simply as many as in the other case, but even greater. Whatever good, therefore, alcohol may seem to do at the time, it is clear that its ultimate influence is pernicious, and not salutary. In effect, *other things being equal*, a person has a better chance of recovery without alcohol than with it. Such being the case a medical man ought not to diminish a patient’s prospects of finally recovering by administering alcohol for some temporary alleviation of certain symptoms.

Still more important is it to get rid of the idea that brandy or other stimulant is of such essential service in minor ailments that no household is safe, unless there is some in the cupboard, or if brandy is to be tabooed, that some substitute is absolutely necessary. This word “substitute” is used in a double sense. With some people it means alcohol taken in some other form. Thus, they will decry brandy and recommend spirits of sal-volatile, spirits of chloroform, compound tincture of lavender or cardamoms, or *eau de Cologne*, all which are pure proof spirit and twice as strong.
in alcohol as brandy itself! I am quite of opinion that if we must choose between brandy and any or all of these preparations it is better to eschew the brandy and take the others; for there are not the associations connected with these that there are with the former, and the flavour is not so seductive. But it must be remembered that these drugs are quite capable of awakening the alcoholic appetite in a reformed drunkard, and that their frequent use can engender the alcoholic craving. Hence, they are totally unsafe. The same remark applies to the much-puffed Hop Bitters, which contain a considerable amount of alcohol, and to other nostrums, advertised even in temperance papers as being equal to or better than brandy: these are for the most part solutions of aromatics and condiments in alcohol, and besides injuring the system by the alcohol they contain are calculated to do as much harm in other ways if often resorted to.

On the other hand, a substitute for brandy may and does legitimately mean the substances which may be taken, or the measures which may be adopted, to relieve or save the patient in place of brandy. It would be impossible here to describe all that may be done in every emergency with this object, and it is the less necessary as I have in my little book, entitled "The Non-alcoholic: Home Treatment of Disease,"* done this with considerable fulness. I may say, however, that where brandy is required as a narcotic several other narcotics are available, though all these are dangerous remedies for self-administration, and should never be resorted to in any regular way, else a craving for that particular drug will surely be acquired. One of the most easily remembered rules, however, is, that when a substitute is required for brandy as a narcotic, apply warmth externally; when for brandy as a so-called stimulant, give hot drinks internally.

If hot external applications are required, there are cases where hot poultices of linseed, linseed and mustard, or mustard alone, are very useful; in others, turpentine applied on hot flannels does much good; while in many others cold compresses effect the same object by becoming hot and promoting re-action.

As a stimulant pure and simple there is nothing acts so rapidly and powerfully as hot water, milk and water, tea, &c., or non-alcoholic peppermint or ginger in hot water. It is in such cases also that sudden cold applied externally to the face or chest is so useful by reflex action through the nerves, while the fumes of ammonia or snuff acting on the nerves of the nose, or a draught of cold water or a feather acting on the nerves of the throat in the same way, stimulate by reflex action the sympathecic system of nerves. It is rarely that any violent measures are necessary,

* Published at the National Temperance Publication Depôt.
and when cases are so far gone that these fail, I very much doubt if alcohol, however judiciously administered, would be of any service, while, as I said before, we run the risk when that is given of doing more harm in other ways.

Alcohol, driven from its pinnacle of importance as a necessity of daily life; having had its pretensions of being useful under extraordinary demands upon the strength or endurance completely disproved; still puts in a special plea of value as a medicine, if not as the veritable eau de vie. Required to prove its assertions, and confronted with boldness by those who dispense with its aid, it is again unmasked, and one more proof is afforded of the wisdom of Solomon when he described it as a "mocker" and "deceiver."

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**GRACE VERSUS POISON.**

In the course of a lengthy review of the lecture on "Wines; Scriptural and Ecclesiastical,"* delivered by Dr. Norman Kerr to the Church Homiletical Society in the Chapter House of St. Paul's, a writer in the Church Quarterly Review makes some astonishing statements, which involve a consideration of the physical action of intoxicating liquors on the body and brain. The reviewer states that "no one who believes in the reality of sacramental grace can doubt for a moment that in the faithful use of the cup of salvation our Lord will shield His own redeemed from any possible harm." Again, he says:—"We decline to believe" "that, even where the law of heredity in alcohol operates, the grace of God is powerless to release the body as well as the soul of a man who yields his will to our Lord, and is continually strengthened by His indwelling presence."

It is evident that, whatever knowledge the reviewer has of "sacramental grace," he is utterly ignorant of the truth as to the nature and influence of intoxicating drink. Alcohol is a material substance having a certain physical action on body and brain. It is an irritant and inflaming narcotic poison, irritating the stomach, liver, heart, brain, and other vital organs, and narcotising the whole man through the immediate influence on the brain and nerve centres. By its neurotic or narcotic action alcohol affects the higher and more sovereign faculties. It dims the perception, clouds the intelligence, and destroys the moral

* Published by the National Temperance League, 337, Strand.
sense. By the latter or narcotic influence on the brain and nervous system, this powerful poison works such sad havoc, both for time and for eternity, which medical men, magistrates, judges, and Christian workers all alike deplore.

Nor is it, as the reviewer curiously enough asserts, in the shape of "anhydrous alcohol" that this long train of ills is induced. So far as we know, it is a physical impossibility for anyone to be intoxicated with "anhydrous alcohol," as this substance, unless it be taken along with water, as beer, wine, or ardent spirits, would in all probability from its extreme irritating action cause death, either from local irritation or by shock, before either enough could be swallowed to prove fatal, or there would be time for the action of the poison when diluted to declare itself. Alcohol, as alcohol pure and simple, does not practically enter into the question at all. We have to do with it only as found in what are called "intoxicating" liquors, in the form of beer, ale, stout, port, sherry, claret, champagne, whisky, gin, rum, or brandy, &c. Dilution adds to the rapidity and fulness of absorption, and if only the same quantity of absolute alcohol be drunk, that will have a quicker and more serious effect when freely diluted than when taken in a less diluted form.

It is true that there are various alcohols. There is the wax-like cetyl alcohol, which no one has been intoxicated with, simply because no one has succeeded in dissolving it. Ethylic alcohol is the most delicate. It is the alcohol of the finest and most delicate fermented wines, and the least poisonous. But all the alcohols are poisons. We occasionally meet with methylic alcohol, or wood spirit, and amyllic alcohol, or fusel oil, the latter of which adds new horrors to intoxication; but, in this country especially, these crudities are rarely seen. The intoxicating drinks in use by the English are fairly pure, and the existence of alcohols other than the ethylic is so limited that for practical purposes we need not regard any other. This alcohol, therefore, is practically the alcohol of our intoxicants. As alcohol is present in ginger beer or in zoedone or other non-intoxicating beverages we need not concern ourselves, but as it is present in intoxicating drinks we are deeply interested in it, for it is there present in intoxicating proportion, and has the power of causing intoxication.

Intoxicating liquors are, therefore, physical agents, and have a clearly defined physical action on the living man. Though the greater part of mankind may drink them in what is called "moderation," there are very large numbers who are quite unable to do so, and who habitually drink to excess. Even from "drinking, far short of drunkenness," to use Sir Henry Thompson's happy and truthful words, there is a vast amount of intem-
perance which, as Sir William Gull, Sir Henry Thompson, Dr. Andrew Clark, and other eminent physicians and surgeons have again and again declared, is a productive cause of suffering, disease, and premature death. The proof of intoxicating liquors being poisonous is as clear by chemical observation and post mortem examination as is the proof of poisoning by arsenic, strychnia, or prussic acid. If there is reasonable evidence that arsenic, or strychnia, or prussic acid is a poison, there is as much reasonable evidence that intoxicating drinks are poisonous. Nay, though in the past, from a desire to spare the failings of the dead, and from other reasons, the true influence of intoxicating liquors in the causation of sudden and mysterious deaths was not fully recognised by coroner's juries, the newspapers of the day now constantly publish reports of inquests where verdicts are returned of "death from alcoholic poisoning."

All this mischief, and all the other social, political, moral, and spiritual evil arising from intemperance, is the product of a physical cause. Whatever else a man may become, liar, thief, or murderer, if he do not drink any intoxicating drink he cannot become a drunkard. To secure absolute immunity from intoxication it is necessary simply to totally abstain from the physical agent, which, by its narcotic influence on the brain and nerve centres, causes intoxication.

Leaving out of sight altogether ordinary drunkenness, habits of intemperance are so indulged in by some that the whole system becomes diseased, and a true mania is the issue. The physical system of the dipsomaniac is in a state of ill-health, the structures of the brain and nerve tissue being altered. Appeals to the conscience of the dipsomaniac are in many cases fruitless, for his will power is broken down, and his moral sense is lost. Such moral and mental wrecks sign the total abstinence pledge week after week, with the best and purest intentions; but their system is so altered and diseased by alcohol that the only human chance for them seems to lie in absolute seclusion in circumstances where the presence of their enemy, intoxicating drink, is effectually prohibited. Many of them, too, are in need of medical and remedial treatment, as well as of higher influences to enable their shattered morale to recover even a share of its former robustness.

In many of these cases the irresistible crave for drink is reawakened in a moment on the taste of the smallest sip of the weakest intoxicant. A sip of claret has been known to stimulate into life and vigour their long dormant appetite for their destroyer. This appetite is, in many, a physical condition, and no moral or religious agency can remove it. These may, and sometimes (though after a severe struggle) do, enable the diseased one to
Grace versus Poison.

resist the well-nigh overpowering physical craving, but they do not prevent it.

Arsenic will kill a good man as speedily as it will kill a bad man. Prussic acid will terminate prematurely the career of a Christian as effectually as it will terminate prematurely the career of a heathen, when either of these substances is taken in quantity sufficient to cause death. Arsenic and prussic acid, no matter what the circumstances secular or sacred in which they are taken, always have the same kind of effect. If administered in a sacramental cup these poisons would do as much physical injury as if quaffed in scenes of riot and disorder. In like manner, intoxicating drinks exhibit the same physical tendencies when drunk at the sacrament as when drunk at the social board or at the wedding feast. All who have a knowledge of the nature and properties of alcohol, and of intoxicating drink, understand this; and the fact of a writer in the Church Quarterly Review asserting that a belief in the efficacy of sacramental grace will protect a believer from the physical consequences of swallowing a material substance, simply shows the utter ignorance of the chemistry, physiology, and pathology of alcohol, which pervades the ranks of the spiritual guides of the people. The clergy have so much to attend to, and are so overburdened by the pressure of harassing duties, that we would not willingly add another burden to the weight under which they at present labour; but the unacquaintance with the physical properties of alcohol displayed by the writer in question is so marked, that we would strongly urge the propriety of temperance associations instituting a course of instruction in elementary organic chemistry for the special benefit of the clergy.

Facts innumerable attest the truth of the doctrine we have just expounded. In his lecture on Wines, Dr. Kerr narrated the particulars of one affecting case of the relapse of a godly Scripture reader, who had been a reformed drunkard for years, and who was persuaded against his will by a brother Christian worker to celebrate the communion in intoxicating wine. These cases are very difficult to authenticate, as the friends are fearful of the identity of the victim being revealed; but, as regards this case, Dr. Kerr offered to furnish the late Archbishop of Canterbury with the name and address as a guarantee of the facts. In his more recent lecture in the rooms of the Medical Society of London,* Dr. Kerr gives another case, on the authority of a distinguished professor of science in an ancient university, of a gentleman—a reformed inebriate—who had been for many years engaged actively in Christian work, and who regularly took the Sacrament

* Published at the Hand and Heart Office, 1, Paternoster Buildings.
in unfermented wine. On one occasion he communicated in the usual intoxicating cup at another church, and fell. The learned professor informed Dr. Kerr that the communicant, on tasting the intoxicant, was so overcome by an uncontrollable longing for alcoholic liquor that he rushed from the church into the nearest public-house, and, returning home, was found in his office on the following day, in a drunken sleep. His remorse, added the professor, was terrible, but he said that nothing could have restrained him, when once the fatal taste had been renewed, from quenching his maddening thirst.

Dr. Kerr, also, in his latest lecture, quoted from John B. Gough the saddening history of the relapse into drunkenness, ending in death within fourteen days, of a colonel in the United States army, through partaking of intoxicating wine at the Sacrament. Dr. C. R. Francis, retired Surgeon-General, and late Principal of the Calcutta Medical College, relates the history of a comparatively recent occurrence at the Sacrament in a church in a cathedral city in England. A young man, who had been a drunkard for years, and an abstainer for five years, a sincere “believer in the efficacy of sacramental grace,” communicated regularly at his church, where, on his account, the clergyman, though not an abstainer, had provided unintoxicating wine. One day the supply of unintoxicating wine was too limited to extend to this communicant, and the clergyman, not dreaming for a moment that harm would ensue, substituted a little of the intoxicating “pure sacramental wine” formerly in use. The result was that the poor young fellow, on tasting the wine, rushed out of the church in an excited state. Providentially, two truly Christian members of the congregation, acquainted with his case, suspected that something was wrong. They followed him, and with difficulty by physical force restrained him from going into an adjoining public-house. They prayed with and watched him, and finally had to lock him in a room till they obtained assistance from others in the congregation. Not until late at night did the purely physical and uncontrollable craving for strong drink leave him, or, to use the words of Dr. Francis’s informant, “was the demon of drink laid.”

The writer in the Church Quarterly gives utterance to a number of other erroneous statements with reference to alcohol and alcoholic liquors; but as these are all based on an imperfect knowledge of the nature and properties of alcohol, we need not exhaust the patience of our readers by exposing the fallacy of these statements. No one acquainted with the composition and effects of intoxicating liquors could possibly have fallen into so many errors. In the words of a well-known Jewish newspaper, in an editorial on Dr. Kerr’s lecture on Passover Wine, “of the article in the Church Quarterly Review the less said the better.”
THE MORTALITY DUE TO ALCOHOL.

REPORT OF A COMMITTEE OF THE HARVEIAN SOCIETY, APPOINTED BY THE COUNCIL IN PURSUIT OF A RESOLUTION OF THE SOCIETY FOR THE PURPOSE OF ENQUIRING INTO THE MORTALITY REFERABLE TO ALCOHOL.

Read before the Society, 16th November, 1882.

1. The inquiry entrusted to us is now complete, within the limits which, in view of the largeness of the subject, we have found it necessary to adopt, and we beg to report as follows.

2. The points to which, at the outset, we found it necessary to confine our attention were (1) the extent of the mortality referable to alcohol, and its proportion to the mortality from all causes; (2) the proportion in which it is distributed between the two sexes; (3) the ages at which, and (4) the occupations in which it chiefly occurs; and (5) the modes of death.

3. We also decided, early in the inquiry, to limit its scope to the metropolis, as affording a definite field which should be at the same time familiar to us, within the means placed at our disposal by the Society, and sufficiently large and varied to yield important results.

4. There are strong grounds for thinking that the returns of the Registrar-General are inadequate in reference to this subject, as they are based upon certificates whose terms do not require the mention of anything but the immediate cause of death, as distinguished from the cause of disease; and, in fact, only 164 deaths were referred to this cause in London in 1876, 180 in 1877, and 220 in 1878.

5. We decided, therefore, to address ourselves directly to the practitioners of the metropolis, to whom the facts are known, and to ask for information bearing upon the five points before mentioned.

6. The details of the plan upon which this was done are given in our first Report, presented in 1879, to which we beg to refer.

7. Our best thanks are due to the gentlemen who responded to this request, and who furnished altogether a statement of between seven and eight thousand adult deaths from all causes in private practice, of which they had preserved a record sufficient for our purpose.

8. As our first and principal object was to ascertain the proportion of deaths from alcohol to deaths from all causes, it was requisite that the collection of cases on which we proceeded should be not only as large, but as completely representative of the London mortality as possible.

9. The London mortality is peculiar in this respect, that so large a proportion of the deaths take place in public institutions, and a large number also become the subject of coroners' inquests, and are, therefore, not certified at all.

10. The proportion, in 10,000 deaths may be stated as 7,505 certified by private practitioners, 1,183 in workhouse infirmary and lunatic asylums, 646 in hospitals, and 666 inquests. Through the kindness of the medical officers of several of the metropolis infirmaries, of the registrars of St. Mary's and St. George's Hospitals, and of the late Dr. Hardwicke, coroner for Central Middlesex, who placed his official records at our disposal, we have been able to supplement the cases contributed by private practitioners with very nearly the proper proportion of the other classes of cases, so that the total with which we have to deal amounts to 10,000
cases, constituted as follows—7,505 private cases, 1,172 infirmary and asylum, 646 hospital, and 677 inquest.

11. It is obvious that any conclusions based upon these 10,000 cases, will hold good equally for the total adult mortality of London, to which they correspond so very closely in composition.

12. The 10,000 cases as returned to us, and shown in Table I., are broadly divided into three classes—A, deaths in no wise due to alcohol; B, deaths accelerated, or partly caused, by its abuse; C, deaths wholly due to it; and their respective numbers are A, 8,598; B, 1,009; and C, 397, which gives 1,402 deaths, as nearly as possible 14 per cent., in the causation of which alcohol appears to have played some part. If this part were, in all cases, a leading one, it would correspond to an annual adult mortality of about 5,870 from alcohol in London, or 38,971 for England and Wales, assuming for the moment that the metropolitan figures would apply to the whole country.

13. But in dealing with returns such as these, it is eminently necessary that the facts should be weighed as well as counted; and an examination of the deaths returned under B and C respectively, speedily shows that the degree of weight to be attached to the two classes is very different. The latter is, with a few partial exceptions, entirely composed of genuine instances of death not only supervening on, but caused by alcoholic excess, and may be thoroughly relied upon. The former is a heterogeneous group of deaths, in the causation of which the share attributable to alcohol ranges from the almost exclusive to the scarcely appreciable.

14. We shall return to this point in discussing the modes of death with reference to Table II.; but we would point out here that, whatever view be taken of this class of cases, the fact remains that they are all deaths of persons known, or reasonably suspected, to be addicted to drink, in which the practitioner in attendance, or the coroner who investigated the death, or the registrar or pathologist of the hospital where it occurred, considered, whether on sufficient or insufficient grounds, that death was accelerated by, or partially due to, alcohol.

15. On the whole, the returns before us seem to show that, in London, a percentage of adult deaths, which may be variously estimated at from little more than 1.5 to 4, is directly due to alcohol; while a further proportion of 10 per cent. of those who die have injured their health in a greater or less degree by alcoholic excess.

16. In the set of cases derived from hospitals, where no case was admitted to Class C except upon evidence thoroughly satisfactory to us, and resting, in most instances, upon a post mortem examination, the proportion in this class was 1.55 per cent.; and it is probable that we are here upon more solid ground than in any other part of the inquiry. When, however, it is remembered that the antecedents of a patient are unknown to the medical officers, and that his own assertion of temperate habits cannot always be checked by a post mortem examination, we feel that it would hardly be safe to apply the figures derived exclusively from this source to the population generally.

17. On the other hand, the inquests taken alone, would yield a proportion of 5.6 per cent.; but it is obvious that they include too large a proportion of the worst cases, and we should not think of applying a ratio calculated from them to the metropolis at large.

18. The percentages in the other two sets are between these two extremes, being 2.133 in the infirmary series, and 4.317 in the private cases.

19. These differences are evidence of the difficulties and uncertainties which beset the inquiry, depending as they do on the frequent difficulty of deciding to which category a case should be assigned, and the adoption of a more rigid standard by the Committee themselves in the hospital cases than they could enforce upon their informants.
20. It should, however, be remarked that, when all the deaths referred to alcohol, whether in greater or less degree, are placed indifferently in one category instead of two, their proportion varies comparatively little in each of the several sets of cases, being 11 per cent. of the whole in the hospital cases, nearly 13 in the infirmary set, and just over 14 in each of the others.

21. The proportion in which the numbers are distributed between the two sexes shows a remarkable preponderance of men over women in the alcoholic classes B and C. The 10,000 cases with which we are dealing show an accidental preponderance of men over men nearly in the proportion of 10 to 9, which is itself an exaggeration of the slight preponderance which exists of female over male adult deaths from all causes in London. But in Class B we find the male deaths nearly twice as numerous as the female—663, as against 342. In Class C, the male preponderance is still large, but not nearly in the same proportion—242, as against 155. These figures seem to suggest that while disease from alcoholic excess prevails much more among men than women, its more aggravated forms are relatively more common among women.

22. The ages at which the deaths in B and C respectively occurred are shown in Table II. in decades of years. It shows that deaths, in the causation of which alcohol is concerned, occur at a relatively earlier age than deaths from all causes. In Class B, two-thirds, and in Class C, three-fourths, of all the deaths, occurred between the ages of 30 and 60; whereas, in the adult population of the metropolis generally, little more than half occur between 35 and 60.

23. It will be observed that no less than 86 deaths of persons over 70 are referred to Class B, and 13 to Class C. It must, of course, be only in a modified sense that such persons can be said to have died of drink; but we give them as returned to us. One of the most extreme instances is reported in these words: “Widow, aged 82; congestion of lungs; was constantly drunk for years.” Such cases as this might rather be quoted to show that excess in alcohol is consistent, as no doubt it is in exceptional instances, with the attainment of advanced age. Still it may, of course, be urged that such persons might, but for their intemperance, have figured as centenarians, of whom 88 were returned as dying in the year 1878 in England and Wales.

24. The information which has been furnished to us respecting the occupations of persons whose deaths have been hastened by intemperance, is not sufficiently complete or systematic to enable us to draw any trustworthy conclusions. The only salient point which seems to come out clearly from such analysis as we have been able to make of it is the large preponderance of persons engaged in the liquor trade. Out of 224 deaths of persons dependent for their living upon various trades, no less than 104 appeared to be publicans, hotel-keepers, wine merchants, their wives, and persons in their employ.

25. The modes of death may be studied in Table II. The 1,402 more or less alcoholic deaths in Classes B and C respectively are there set out under the various causes of death under which they were registered, and these will in most instances afford some guide to the events or morbid processes through which alcoholic excess proved fatal in the several cases.

26. In Class C, which contains much the most unequivocal and reliable set of cases, 397 in number, perhaps the simplest are 59 cases made up as follows: 5 deaths from asphyxia and 12 from other accidents occurring to persons in a state of intoxication; then 9 referred to “alcoholic poisoning” or “excessive drinking,” and 30 to “alcoholism” or “chronic alcoholism;” to which should be added 3 others where the terms “general infirmity,” “debility,” and “syncope” were confessedly employed as euphemisms for the same thing.

27. In this group of 59 cases, it is
difficult to single out any organ as being principally affected; but if the method of classification according to organs be applied to the remaining 338, it will be at once seen that diseases of the liver and chylopoietic viscera very largely preponderate; 116 deaths are referred to disease of the liver, 11 more to disease of liver and stomach; there are 8 from disease of stomach and haematemesis, which it is impossible to disentangle from the former; and, if we add 9 more referred to disease of liver and kidneys, 2 to disease of heart and liver, 3 to diarrhoea, and 3 to peritonitis, we get a total of 150 deaths, or three-eighths of the whole class, brought about by disease of the abdominal viscera.

28. Forty-six cases are referred, under various names, to disease of the nervous centres, besides 38 to delirium tremens, and 1 to dipnomania, making a total of 85.

29. Twenty cases are referred to disease of the kidneys, albumenuria, and uraemia, besides the 9 mixed cases already mentioned in which the liver and kidneys were both affected.

30. Thirteen cases are referred to disease of the heart, besides 2 already mentioned in which both heart and liver, and 2 more in which heart, liver, and kidneys, are all mentioned.

31. Twenty-two cases were registered as dying of phthisis, and as many more from other lung diseases, pneumonia, pleurisy, bronchitis, and congestion. This gives a smaller proportion of deaths from phthisis than among the general population, a subject further considered in section 34.

32. Turning now to Class B, and taking first the deaths from lung diseases, we find that out of the 1,005 deaths, reported as partially referable to alcohol, which constitute this class, 70, or nearly 7 per cent., were registered as dying from pneumonia and pleurisy. The deaths from these causes among adults in London generally, only amount to 3'8 per cent. It would seem, therefore, subject to the qualification stated in the next section, that intemperance materially increases either the liability to, or the fatality of, the class of cases usually returned as pneumonia and pleurisy.

33. On the other hand, the deaths, 107 in number, referred to bronchitis, asthma, emphysema, and congestion of the lungs, are only 10 per cent. of the whole, whereas these causes furnish nearly 15'5 per cent. of the adult mortality of London generally. Considerably more men than women are returned as dying of pneumonia and pleurisy, and more women than men of bronchitis, &c., in London generally; but among the intemperate, the preponderance of males considerably heightens the excess of that sex in the case of pneumonia and pleurisy, and completely reverses the excess of women in the other case. The significance, however, of this and all comparisons between deaths from bronchitis and from pneumonia is impaired by the fact that the distinction between bronchitis and pneumonia is somewhat loosely drawn in the death certificates in the case of old people.

34. The figures relating to phthisis in this Class B, lend no support to the theory that alcohol has any specific tendency to develop this disease; 162 deaths out of the 1,005 supposed to be partially caused by alcohol, were referred to phthisis, or 184 out of the 1,402, Classes B and C taken together. The former figures yield a percentage of about 16'1, the latter only 13'1, whereas it is well known that phthisis accounts for about 20 per cent. of the adult mortality of the metropolis. Not only do the deaths from phthisis thus seem to be fewer in the intemperate section of the metropolitan population, but they apparently tend to occur at a somewhat later age. The decades of years in which Table II. is arranged, unfortunately do not correspond with those in the Registrar-General's tables; but as near a comparison as the tables will admit of, shows that, while 50 per cent. of the deaths from phthisis among intemperate persons occur at ages between 40 and 60, the equal, but slightly earlier
period, between 35 and 55, only furnishes 46 per cent. of the deaths from phthisis among the general population; and the equal, but slightly later period, between 45 and 65, only 27 per cent. Three men seem to die of phthisis to one woman, among the intemperate; whereas the proportion among the general population is four men to three women.

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<td><strong>Total</strong></td>
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</table>

35. The high mortality among intemperate persons from diseases of the liver and chylolocular viscera is again illustrated in Class B by a return of 164 deaths. These amount to more than 16 per cent. of the whole; whereas the deaths from these causes form only 4 per cent. of the adult deaths in the general population of the metropolis. It is obvious that so large an abnormal increase in the death-rate cannot occur under the head of one disease without some reduction under the head of others; and it may be supposed that such a displacement of the mortality, analogous to what is observable in the returns relating to zymotic diseases when one of them is especially prevalent, reduces the proportionate mortality from the more common diseases among the intemperate.

<table>
<thead>
<tr>
<th>TABLE III.</th>
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</thead>
<tbody>
<tr>
<td><strong>Causes of Death.</strong></td>
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<tr>
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</tr>
<tr>
<td>All causes</td>
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<tr>
<td>Bronchitis, Asthma, Emphysema, and Congestion of Lungs</td>
</tr>
<tr>
<td>Phthisis</td>
</tr>
<tr>
<td>Heart-Disease</td>
</tr>
<tr>
<td>Chylolocular Viscera (diseases of)</td>
</tr>
<tr>
<td>Nervous Diseases</td>
</tr>
<tr>
<td>Kidney-Disease, Albuminuria, Uremia</td>
</tr>
</tbody>
</table>

37. The deaths in Class B from diseases of the nervous centres amount to 145, or 154 if we include 9 from delirium tremens. The former figure corresponds to 144 per cent. of all the deaths, the latter to 1532; whereas
<table>
<thead>
<tr>
<th>No.</th>
<th>Certified Cause of Death</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>20 to 29</td>
<td>30 to 39</td>
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<tr>
<td>1</td>
<td>Disease of heart</td>
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<td>F</td>
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<tr>
<td>2</td>
<td>Disease of heart and liver</td>
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<tr>
<td>3</td>
<td>Disease of heart and lungs</td>
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<tr>
<td>4</td>
<td>Disease of heart, liver, and kidneys</td>
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<tr>
<td>5</td>
<td>Disease of liver, with jaundice, ascites, and complications</td>
<td>3</td>
<td>3</td>
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<tr>
<td>6</td>
<td>Disease of liver and stomach</td>
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<td>7</td>
<td>Disease of liver and kidneys</td>
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<tr>
<td>8</td>
<td>Kidney-disease, albuminuria, and uremia</td>
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<tr>
<td>9</td>
<td>Lungs and kidneys</td>
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<td>10</td>
<td>Phthisis and hemoptysis</td>
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<td>11</td>
<td>Pneumonia</td>
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<tr>
<td>12</td>
<td>Pneumonia and pleurisy</td>
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<tr>
<td>13</td>
<td>Bronchitis, asthma, and emphysema and complications</td>
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<tr>
<td>14</td>
<td>Congestion of lungs</td>
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<td>15</td>
<td>Disease of larynx</td>
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<td>16</td>
<td>Apoplexy and paralysis</td>
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<td>17</td>
<td>Softening of brain</td>
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<td>18</td>
<td>General paralysis</td>
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<td>19</td>
<td>Epilepsy</td>
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<tr>
<td>20</td>
<td>Disease of brain and meninges</td>
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<td>21</td>
<td>Diffusion on brain</td>
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<td>22</td>
<td>Convulsions</td>
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<td>23</td>
<td>Disease of spinal cord</td>
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<td>24</td>
<td>Disease of stomach and hematemesis</td>
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<td>25</td>
<td>Chronic diarrhea</td>
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<td>26</td>
<td>Peritonitis</td>
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<td>27</td>
<td>Cerebral abscess</td>
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<td>28</td>
<td>Dysesthesia</td>
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<td>29</td>
<td>Ulceration of bowels</td>
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<td>30</td>
<td>Intestinal obstruction</td>
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<tr>
<td>31</td>
<td>Disease of rectum</td>
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<tr>
<td>Disease of bladder</td>
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<tr>
<td>Appendicitis</td>
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<tr>
<td>Post partum haemorrhage, and miscarriage</td>
<td>1</td>
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<tr>
<td>Anaemia</td>
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<td>Diabetes</td>
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<td>Purpura</td>
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<td>Syphilis</td>
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<td>Typhoid fever</td>
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<td>Epistaxis</td>
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<td>Goitre</td>
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<tr>
<td>Cancer</td>
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<td>Tubercular disease</td>
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<td>Pneumonia</td>
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<tr>
<td>Sputum and gangrene</td>
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<tr>
<td>Pneumonia</td>
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<tr>
<td>Necrosis of bone</td>
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<tr>
<td>Caries of spine</td>
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<tr>
<td>Carbuncle</td>
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<td>Erysipellos</td>
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<td>Cellulitis</td>
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<td>Influenza</td>
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<td>Acute rheumatism</td>
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<tr>
<td>Leucocytosis</td>
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<tr>
<td>Alchoholism and chronic alcoholism</td>
<td>1</td>
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<tr>
<td>Excessive drinking and alcoholic poisoning</td>
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<td>Delirium tremens</td>
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<td>Asphyxia when intoxicated</td>
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<tr>
<td>Accident when intoxicated, fractured ribs and pleurisy</td>
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<tr>
<td>Senile decay</td>
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<tr>
<td>General infirmity, debility and exhaustion</td>
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<tr>
<td>Atrophy</td>
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<td>Syncope</td>
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<td>Insanity</td>
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<tr>
<td>Accidental injury</td>
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<tr>
<td>Suicide</td>
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<td>Not stated</td>
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The Mortality due to Alcohol.
in the adult population of London generally, these causes only account for 12.36 per cent. of the deaths.

38. There is also some evidence that deaths from these causes occur at rather earlier ages among the intemperate. They are mainly diseases of advanced life; and the number of deaths referred to them in London is highest in the decade from 65 to 75, the figures for the preceding decade, 55 to 65, being much lower; but the sample of mortality from these causes among intemperate persons, with which we are dealing, shows as many deaths between 50 and 60 as between 60 and 70, and a somewhat larger proportion of the whole at ages between 50 and 70 than the general mortality shows at the somewhat later ages, 55–75.

39. The deaths from diseases of the heart, 76 in number, amount to 7.56 per cent. of the 1,005 deaths of intemperate persons in Class B, which is considerably below the percentage, 10.77, prevailing among adults in London generally.

40. To kidney-diseases, albuminuria, and uremia, are referred 75 of the deaths, or 7.45 per cent.; whereas, in the adult metropolitan population generally, such deaths are only 3.22 per cent. of the whole. It would seem, therefore, that disorders of the kidney are conditions whose frequency or fatality is notably increased by intemperance.

41. The figures relating to diabetes and erysipelas are too small to be of much value. There are only six deaths from the former, and seven from the latter. Both figures are higher than we should expect from the Registrar-General's tables relating to London.

42. The only remaining important cause of death among adults is "old age" or "senile decay," which accounts for about 6 per cent. of the adult mortality in London, all the instances being over 65 years of age. Only 13 of the 1,005 deaths in Class B were registered under this head, which would yield a percentage of 1.29, or, if 2 deaths of persons under 60 be eliminated, as we think they should be, 1.1.

43. On the other hand, the 17 deaths registered under the heads of atrophy, debility, general infirmity, and syncope, are just twice as many as we should expect. Nine of these are of persons under 60 years of age; and we think it probable that these, with the two cases of senile decay, also under 60, do not differ materially from six others registered under the heads of alcoholism and chronic alcoholism; and should be classed with them.

44. There are also ten accidental deaths, in which either the accident or the fatal result is supposed to have been brought about in some measure by intemperate habits.

45. We find, therefore upon the whole, reason to think that, in the metropolis, the mortality among any considerable group of intemperate persons will differ from that generally prevailing among adults in the following important particulars, viz., a fourfold increase in the deaths from diseases of the liver and chylopoietic viscera; a twofold increase in the deaths from disease of the kidney, a decrease of half as much again in those from heart-disease, a marked increase in those from pneumonia and pleurisy, a considerable increase and an earlier occurrence of those from disease of the central nervous system; a marked decrease in those from bronchitis, asthma, emphysema, and congestion of lungs, a decrease nearly as great in those from phthisis, and a later occurrence, or at least termination, of the disease; a very large decrease in those from old age, with an increase in those referred to atrophy, debility, &c., and the addition of a considerable group referred in general terms to alcoholism or chronic alcoholism, or resulting from accidents.

46. Table III. shows the number of deaths from some of the principal causes of death, and the rates per cent. in the 41,929 adult deaths in London in 1878, and in those comprised in Classes B and C respectively.

47. The figures to which we have throughout referred for comparison are those in the Registrar-General's
DISCUSSION AT THE HARVEIAN SOCIETY OF LONDON.

On Thursday, February 15th, there was a discussion on the report of the Committee appointed for the purpose of inquiring into the mortality referable to alcohol; E. Symes Thompson, M.D., President, in the chair.

Dr. Morton, in opening the discussion, remarked that the largeness of the number of cases the committee were able to collect was a matter of congratulation in two respects; firstly, as evidencing the interest of the profession in the inquiry instituted by the Society; and, secondly, in sufficing to eliminate, as nothing but large numbers could have done, some sources of error to which this, and all inquiries of a statistical nature, are notoriously exposed. He thought the figure eventually arrived at, viz., 14 per cent., was to be thoroughly relied upon as representing, at least for the metropolis, the proportion of deaths in the causation of which alcohol played some part. In Table B, and the sections based upon it, it is to be remarked that the causes of death set down are the certified causes; and it should be borne in mind that certificates, which, under the present system, are open to the inspection of sorrowing relatives, and perhaps critical insurance offices, do not always express the whole mind of the certifier. As to the immense preponderance of deaths from diseases of the liver and other allied organs, it is to be remarked how very small the mortality from these causes would be, apart from the results of alcohol and of residence in tropical climates. Explaining the smaller mortality amongst the alcoholic from chronic pulmonary disorders, the speaker pointed out that the heavy demands of these exceedingly common diseases could not be satisfied after alcohol had exacted its tax in the shape of lever, kidney, and brain diseases, which engrossed 150, 20, and 85 respectively, out of the whole total of 397 in Class C. The later age of phthisis might be accounted for by that distinct form which had been described by Dr. Richardson as occurring among hard-drinkers.

Dr. Cleveland thought the report remarkable by the absence of any deductions, and asked the cui bono of it; there was no question as to the harm done by alcohol, but the report told them nothing they did not know before.

Dr. Norman Kerr remarked that the figures of the report, if applied to the United Kingdom, would make up a total not far short of 50,000 deaths due to intemperance, or 5,000 more than the computation he had made some years since, which had met with much adverse criticism. One benefit resulting from the report would be, that the attention of medical men would be more drawn to the effect of alcoholic excess on the death-rate of their patients in the future, than it had been in the past. The committee, he thought, were well advised in not being too positive in their deductions; it was very difficult to arrive at the truth, both from the personal idiosyncrasy of the observers, and the inherent difficulty of the subject. Death-certificate counterfoils were no very reliable bases, but he suggested that the Collective Investigation Committee of the British Medical Association should ask 500 or 1,000
medicinal men in different parts of the country, to record simultaneously, for a period of twelve months, the causes of all the deaths occurring in their practices, by which means an accurate approximation might be made of the number of deaths annually caused by personal excess in alcohol.

Dr. B. W. Richardson remarked that deaths from alcohol were seldom or never recorded as such, on death certificates, from feelings of delicacy to the friends. As to the paucity of deaths from phthisis amongst drunkards, he agreed with Dr. Morton’s explanation, and pointed out that phthisis and alcohol asserted their influence at different times, deaths from the former cause taking place earlier in life, and mostly before alcohol could have exerted its baneful influence; alcohol could certainly exercise no action preventive of phthisis. He could not understand the lessened mortality from heart disease, and thought there was a want of accuracy in the definition; he had found nothing so common amongst the intemperate as cardiac disease, not so much valvular as structural in nature.

Dr. Fitzpatrick believed that the net scientific value of the report was nil; the inquiry was tainted in its origin by its party character, and he looked upon it as a manoeuvre on the part of certain persons to “exploiter” the Harveian Society in the interests of the temperance propaganda. Having quoted a passage from Mr. M. Arnold’s speech on “Lucidity,” to the effect that “There is no other country in which so much nonsense is as firmly believed as in England,” he urged the Society not to add to the floating capital of nonsense by affirming, on scientific authority, that the moderate use of wine, beer, and spirits is wholesome.

Mr. Eastes said that were not deaths from abdominal diseases amongst drunkards much increased, an advocate of the liquor traffic might have suggested that adults, and particularly those who would avoid death from thoracic diseases, should take alcohol without stint. In Table 3 of the report, the percentage of the mortality amongst drunkards from various diseases was compared with that of the entire population of London from the same diseases. As the entire population comprised abstainers, temperate persons and drunkards, the difference for and against the latter would be accentuated if their deaths were contrasted with those of the temperate and abstainers only. This would give the former a still lessened percentage from thoracic diseases, and a still more striking increase of deaths from abdominal diseases. Further, all persons of Class C, in Table 3, were not necessarily greater drunkards than those of Class B; nor possibly, were all of Class C habitual drunkards. A first debauch might, as in accidents, cause death, classed as entirely due to alcohol. These tables told only part of the tale of the effects of alcohol; in order to cover the whole inquiry, one must consult the general practitioner, the surgeon, the physician, the physiologist, and last, though not least, the relieving officer of the poor, since alcohol costs money, incapacitates the bread-winners, and in other ways brings poverty in its train.

Mr. Burrell said the report would be considered of great value by the actuarial profession, which, for the moment, he had the honour to represent. The report threw an additional light on the mortality arising from irregular habits. This was a source of much trouble to insurance offices, and it was necessary to impose a very heavy extra premium, or to decline altogether, cases where a suspicion as to habits existed. He pointed out that the mortality amongst publicans was far higher than amongst members of any other trade, the percentage of death amongst them being very similar to those of Classes B and C in this report, combined. Experience of those offices which had insured a large number of abstainers, showed that among them the actual claims were only 70 per cent. of those expected; among the non-abstainers 99 per cent. of expected claims. He concluded by hoping the Harveian Society would extend their useful labours.
A Journalist's View of the Harveian Committee's Report.

Mr. Stewart, who acted as chairman of the committee, said that one good he hoped would result from the report was a more accurate use of terms in filling up death certificates; he had been much struck with the looseness of phraseology adopted by medical men. Another good was that the profession would watch more closely the effects of alcohol on their patients, and treat them accordingly.

Dr. Francis considered that a similar investigation in India would produce valuable results. Persons came home from that country attributing their ill-health to its climate; but the real cause of it was that they did not adapt themselves to the climate, but, by the use of stimulants, taxed their livers to an extent which would be injurious at home, but which, in the tropics, was disastrous; for, owing to the diminished capacity of the lungs for eliminating carbon, that duty fell upon the liver, which, under ordinary circumstances was hardly equal to the strain.

The President explained the reduced number of deaths due to diseases of the heart, kidneys, and lungs, by the fact that the disease of the liver was the most prominent symptom at the time of death, and in the tables of the report, only the principal cause of death could be recorded. As to the smaller proportion of deaths from alcohol amongst women, he suggested that a large number of women were secret drinkers; and managed to keep their secret so well, that even the medical man failed to find it out.

A Journalist's View of the Harveian Committee's Report.

(From the British Medical Journal, January 27.)

We published last week a paper on this subject, full of importance and interest. As the title stated, it was the report of the Committee of the Harveian Society, appointed by the Council in pursuance of a resolution of the Society, for the purpose of inquiring into the mortality referable to alcohol. The points to which it was found desirable to confine the attention of the committee were: (1) the extent of the mortality referable to alcohol, and its proportion to the mortality from all causes; (2) the proportion in which it is distributed between the two sexes; (3) the ages at which, and (4) the occupations in which, it chiefly occurs; and (5) the modes of death. For reasons connected with the convenience of collecting their returns, the committee thought it well to confine their inquiry to London; and on addressing themselves to medical practitioners in the metropolis, to various medical officers and registrars, and the late Dr. Hardwicke, Coroner for West Middlesex, they obtained returns of 10,000 cases of death from all causes. Care was taken, in the first instance, that these cases should be of a representative character, since it is obvious that, unless this had been so, any conclusions drawn from them would have been untrustworthy. As the committee say, the London mortality is peculiar in this respect, that a large proportion of the deaths take place in public institutions, and that a large proportion, being cases on which inquests are held, are not certified at all. Out of 10,000 deaths in London, about 7,505 will, on the average, be certified by private practitioners, 1,183 will occur in workhouse hospitals and lunatic asylums, about 646 in hospitals, and inquests will be held in about 666 cases. The 10,000 cases, of which returns were sent to the committee, embraced 7,505 cases certified by private medical practitioners, 1,172 were workhouse infirmary and asylum cases, 646 were hospital cases, and 677 were cases of inquests; and on
these data the committee think that they may be considered fairly average cases, and that any conclusions to be drawn from them will be equally applicable to the adult mortality of the whole metropolis. As to whether this is the case or not, everything will depend on how the cases have been selected. If they were taken as they came, without selection, this character would cause them to approximate in nature and significance to the cases in the Registrar-General's report, better than if they had been selected. To be comparable, in short, they should be representative cases. Even then, however, too much importance must not be attached to small figures. In the report of the Registrar-General for 1878, for example, on which the committee found their conclusions, twenty-one deaths were reported in London as having occurred from synovitis, and sixteen from ischuria. It is obvious that it would be most risky to draw inferences as to the influence of alcohol in causing the incidence of such diseases as these, or of others that might be named, from finding, in the 10,000 cases examined, either more or fewer instances of death from them than was to be expected. The committee are evidently alive to this, however, since we find them saying that too much importance must not be attached to the deaths attributed in their returns to erysipelas and diabetes, although in both cases the mortality was higher than the average mortality of the metropolis from these causes.

The committee thought it best to divide their 10,000 cases into three groups, the first consisting of 8,598 cases into the causation of which alcohol did not enter, the second of 2,005 cases into the causation of which alcohol entered as an accelerating cause, and the third of 397 cases which were wholly due to alcohol. Supposing these proportions to hold good in the metropolis generally, there would be about 14 per cent. of all deaths due either partially or wholly to alcohol; and, at this rate, we should be justified in assuming that 5,870 deaths occur annually in London from alcohol in whole or in part, and 38,941 in England and Wales. This estimate may seem small to those who place side by side with it other estimates, which range from 60,000 to 120,000 deaths in the United Kingdom from alcohol annually. We believe, however, that the estimate of the committee, if more moderate, is also more likely to be true, than the others, because, for the first time, we believe, the committee have separated the adult from the total mortality in attempting to reach their result. It has been stated that about 12,500 deaths occur annually from intemperance in London alone. This is, however, incredible, in view of the fact that the total adult mortality in the metropolis (over twenty years of age) was only 41,929 in 1878. If it were true, the proportion of deaths from alcohol to the total mortality would be nearly as one to three, for the influence of alcohol in causing infant mortality directly must be comparatively slight. The indirect influences may, of course, be considerable—those which lead drunken parents to neglect their offspring—but they are not at present in question, and it is scarcely possible to believe that such a proportion of the deaths can be caused by alcohol, wholly or partially. In any case, the returns of the committee do not touch the question of mortality under twenty years of age, and we believe they have acted wisely in excluding the juvenile and infant death-rate. The committee further show that, when the evidence is of the solid kind that depends on post mortem examinations, and when professional opinion and estimate are more or less excluded, the percentage of mortality due directly and wholly to alcohol sinks to about 1½ per cent. of the whole adult mortality. In the main, however, the committee see no reason to doubt that about 14 per cent. of the total adult mortality is due to alcohol in whole or part.

Some interesting special points emerge from the inquiry. Thus it seems that of the deaths due partially
to alcohol; about twice as many occur in proportion among men as among women. In those wholly due to alcohol the preponderance of male to female deaths, while still large, is not so large as in the former class. These figures may show, as the committee appear to think, "that while disease from alcoholic excess prevails much more among men than among women, its more aggravated forms are relatively more common among women." On the other hand, they may be interpreted to mean that as the men get killed off early in larger proportion than women, there are not so many men left to maintain the proportion as there are of women, and therefore the ratio falls. Another point brought out by the figures is, as might have been anticipated, this: deaths, in the causation of which alcohol is concerned, occur at a relatively earlier age than deaths from all causes. In the partial alcoholic deaths two-thirds of the whole occurred between the ages of 30 and 60; and in those wholly due to alcohol no less than three-fourths occurred at those ages; whereas, in the adult population of the metropolis generally, little more than half occur between 35 and 65. As to occupation, it appears that out of 224 persons dependent for their living on various trades, no less than 104 were publicans, hotel-keepers, wine merchants, their wives, and persons in their employ. Again, as to age, no less than 86 persons out of 1,402 who died wholly or partly from the effects of alcohol reached the age of seventy years or over. One widow, aged 82, constantly drunk for years, died finally of congestion of the lungs. How much longer she might have lived had she been sober is of course an insoluble question.

As to the modes of death, the committee have a good deal to say. Fifty-nine of the cases died of various causes, in which no disease of any particular organ figured largely; but of 328 other cases in which a classification could be made as to the organ specially affected, 116 are referred to diseases of the liver, 11 more to diseases of the stomach and hematemesis, 9 to disease of liver and kidneys, 2 to disease of heart and liver, 3 to diarrhoea, and 3 to peritonitis, so that it appears that 150 deaths, or three-eighths of the whole class, occurred from disease of the abdominal viscera. Deaths from pneumonia and pleurisy, into the causation of which alcohol entered, occurred in the proportion of seven per cent. of the whole, as compared with three-eighths of the general mortality from these causes. On the other hand, only ten per cent. of the alcohol-caused deaths were due to bronchitis, asthma, emphysema, and congestion of the lungs, while over fifteen per cent. of the total mortality is due to these causes. It may, however, be pointed out, in reference to this classification, that the separation between deaths from "pneumonia" and those due to "congestion of lungs," is evidently somewhat loose, and therefore somewhat vitiates the results. No doubt the committee returned the deaths as they were sent in to them, and such uncertainties are inseparable from returns made by a large number of hands; but, in weighing the evidence, such figures must be kept in mind. Strange to say, phthisis is a less frequent cause of death among free users of alcohol than among the general population, only sixteen per cent. of deaths being due to this cause among the former class, while twenty per cent. is the proportion in the latter. Still more curiously, when phthisis is a cause of death, it appears to be at a later age among drunks than among the general population. Three men seem to die of phthisis to one woman among the temperate; whereas the proportion among the general population is four men to three women. The committee have no explanation to offer—at least, they do not offer any—of these curious facts.

A point which has struck us much in the returns is the almost entire absence of reference to the zymotic diseases. The only instance in which any of them is mentioned is when, among the deaths partially due to
alcohol, thirteen cases of typhoid fever are inserted. Since about 3,000 deaths occur from zymotic disease, out of a total adult mortality of about 42,000 in London, this is evidently a very much smaller proportion than we might have anticipated. The committee have, however, no remarks to offer us on this head.

Dr. HINGSTON FOX'S OPINION OF THE REPORT.

(To the Editor of the British Medical Journal.)

Sir,—I think the Committee of the Harveian Society have assuredly done excellent service in preparing the report published in your last number, and the names appended to it are a sure guarantee of its accuracy. But as statistics are proverbially liable to mislead those who are unfamiliar with their use, I desire to point out one misapprehension which may arise, and from which I venture to think the report is not sufficiently guarded.

The committee deal exclusively with the returns of deaths. It was obviously impossible for them to obtain returns of the numbers of living, who used or abused alcohol. Hence their conclusions are based solely on the proportion borne by the deaths from a specific cause, to the deaths from all causes, a method known to statisticians, if I mistake not, as the Chiffré Lethale. This method is very useful as far as it goes, but its results are imperfect. It does not give us the mortality (i.e. death-rate) of the population, or of a section of the population, from any cause, so that it cannot be compared with another year's returns, or with another section of the population; for the total number of deaths may vary greatly. Thus, to take an illustration, in an unhealthy year the deaths from phthisis may be 15 per cent. and in a healthy year 25 per cent. of the total deaths, and yet the actual number of deaths from phthisis, and the actual proportion they bear to the population living, may be exactly identical.

Similarly in the present case we have no means of knowing what the mortality of the intemperate is, simply because we have no returns of the number living who belong to that category. We have the returns of deaths caused by alcohol, and it is very interesting to know what proportion they bear to the deaths from all causes, but unless we know the proportion borne by the intemperate to the population at large, we could not tell the relative mortality of the intemperate.

When, therefore, this committee tell us in their valuable summing up that the mortality of the intemperate shows "a fourfold increase in the deaths from diseases of the liver," &c. we must not be misled; the increase is purely relative to the total number of deaths. Intemperate persons may be actually no more subject than temperate, or they may be ten times more subject; all we know is that if we take the total number of deaths amongst the intemperate, we shall find that liver disease will account for four times as large a proportion of them as it does of the total deaths of the population at large. And further on, where "marked decrease in the deaths from bronchitis, emphysema, phthisis, &c.," is stated to obtain among the intemperate, we must understand, as before, that it is only a decrease relative to the total number of deaths. I strongly suspect that the relative decrease is in fact an absolute increase. Thus if (at a conjecture), we may take the total mortality of the intemperate to be double that of the community generally—a point on which the statistics before us can throw no light whatever, then the 13.1 percentage of
Does Alcohol save from Lung Disease?

Lastly, I question on similar grounds the 36th section of the report. A large abnormal increase under one disease, i.e., an increase in the proportion of deaths from that disease as compared with other diseases, may occur without any actual reduction under the head of others—although if the increase be very large there is certainly a probability of such reduction.

R. Hingston Fox, M.R.C.S.
Finsbury Park, N., January 20th.

DOES ALCOHOL SAVE FROM LUNG DISEASE?

We do not regret, as some of its members seem to have done, that the Harveian Society has been engaged in discussing a report of one of its committees on the mortality referable to alcohol. It may be true that no very new conclusions have been reached, and that those which have been arrived at are of doubtful soundness. Nevertheless, the subject is one of such great importance that it cannot be too often discussed, and can nowhere be so properly discussed as in the cool atmosphere of a Medical Society. Teetotalers of all grades claim very much credit for the recent vast increase in temperance and the remarkable diminution of the amount of alcohol consumed, and we are not disposed to withhold what they claim. But it is not the less true that much of the suspicion with which alcohol is regarded by the intelligent classes, and which is giving some anxiety to the Chancellor of the Exchequer, is due to medical teaching—and, let us add, to medical example—which, in the metropolis at least, is very decidedly on the side of temperance.

The Committee of the Harveian Society collected from private practitioners of the metropolis a large number—between 7,000 and 8,000—of cases of death. These cases were supplemented by returns of cases from the medical officers of several metropolitan hospitals and infirmaries, and cases investigated by the late Coroner for Middlesex, Dr. Hardwicke, till the whole amounted to about 10,000, constituted as follows:—7,505 private cases, 1,172 infirmary and asylum, 646 hospital, and 677 inquest. The Committee directed their attention to the following points: (1) the extent of the mortality referable to alcohol, and its proportion to the mortality from all causes; (2) the proportion in which it is distributed between the two sexes; (3) the ages at which, and (4) the occupations in which, it chiefly occurs; and (5) the modes of death. The Committee divided the cases submitted to them into three classes—A, deaths in nowise due to alcohol; B, deaths accelerated or caused by its abuse; and C, deaths wholly due to it. In this way they bring under A 8,598 deaths, under B 1,005, and under C 397. They thus sum up: the mortality among intemperate persons differs from that generally prevailing among adults in the following important particulars—viz., a fourfold increase in the deaths from diseases of the liver and chylopoietic viscera; a twofold increase in the deaths from diseases of the kidney; a marked increase in those from pneumonia and pleurisy; a considerable increase, and
an earlier occurrence of deaths, from diseases of the central nervous system; an increase in deaths from atrophy, debility, &c. On the other side they find in the mortality of intemperate persons a decrease of half as much again in those from heart disease; a marked decrease in those from bronchitis, asthma, emphysema, and congestion of the lungs; a decrease nearly as great in deaths from phthisis, and a later occurrence, or at least termination, of the disease; a very large decrease in the deaths from old age. But accepting some of the conclusions of the Committee, it will be seen that a very serious indictment is framed against alcohol, which only comes out the stronger when the details are considered. As an agent for producing degeneration, alcohol is unrivalled, and the Committee find that the central nervous diseases which occur in the ordinary population between sixty and seventy, are antedated in the intemperate, and occur between fifty and sixty. But this is a charitable age, and the worst cases get a considerate judgment. Medical men have said to themselves, "Surely the agent that does all this harm must do some good. If so many diseases are caused by alcohol, surely some must be prevented." Some authorities have thought that cancer is possibly prevented by alcohol, though we are not aware that such a supposition rests on any substantial basis. But there has been a very general belief that tubercle is antagonised by alcohol, and the Committee give the sanction of their conclusions to this view, which is held by Dr. Walsh, Dr. Flint, and others. But even this is very doubtful. Dr. W. Howslop Dickinson—who is fully alive to the uses of alcohol, dietetic and therapeutic, and who has vindicated it from some of the charges brought against it by some pathologists—in a classical paper published in Vol. Ivi. of the Medico-Chirurgical Transactions, has very seriously shaken the ground of this belief. He has taken from the very careful pathological records of St. George's Hospital the post-mortem appearances—by far the most trustworthy data—in 149 cases of persons who were engaged in the liquor trade, and presumably drank more than others, and compared them with the appearances found in 149 other cases, chosen without bias, and the results were strikingly against the view that alcohol drinkers have an advantage in exemption from either lung disease or tubercular disease of any kind. They seemed to show that organs suffered in proportion to their nearness to the centre of absorption—the liver, the lungs, the blood-vessels, and the brain and nervous system. The facts as regards tubercle in the lungs were as follows in the alcoholic and non-alcoholic series respectively.

<table>
<thead>
<tr>
<th>Tuberculosis Type</th>
<th>Alcoholic</th>
<th>Non-Alcoholic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miliary tubercles; no vomica; tubercle elsewhere</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Miliary tubercles; no vomica; tubercle elsewhere</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Crude or cheesy tubercle; no vomica; no tubercle elsewhere</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Crude or cheesy tubercle; no vomica; tubercle elsewhere</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Tubercles and vomica; no tubercle elsewhere</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Tubercles and vomica; tubercular disease elsewhere</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Cicatricial apex; no tubercle elsewhere</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Cretaceous mass; no tubercle elsewhere</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Cretaceous mass; tubercular disease elsewhere</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Thus there were in the alcoholic set of cases forty-nine lungs tuberculated, and in the non-alcoholic only twenty-eight. Dr. Dickinson, on the relation of alcohol to tubercle in all parts of the body, says:—"In each part of the body amenable to tubercle—brain, liver, kidneys, bowels, and peritoneum—the frequency of its occurrence is at least doubled by the alcoholic pursuit. Attributing the excess, as we needs must, to the influence of the liquor, we arrive at an important and secure deduction that alcohol engenders tubercle."

But that our space is ended, we
THE RELATIONS BETWEEN INTEMPERANCE AND INSANITY.*

By Norman Kerr, M.D., F.L.S., London,
Hon. Secretary to the Dalrymple Home for Inebriates, and to the Habitual Drunkards Legislation Society, Corresponding Secretary to, and Honorary Member of, the American Association for the cure of Inebriates.

The common idea that intemperance is but a vice, the penalty of a breach of the moral law, and a sin against God, will, I am sure, find no favour with you. You may not all agree with me in the belief that moral obliquity and vicious tastes sometimes are the cause of intemperance, but I feel convinced that you, and all who have had the opportunity of intelligently watching the rise and progress of intemperance and insanity, are alive to the fact that the phenomena of both diseases are mainly physical, and are the legitimate outcome of the operation of natural law.

Let me not be misunderstood. I am a firm believer in the principles of the Christian faith, and in responsibility to the Judge of all for the proper use of every faculty with which we have been endowed. Therefore I freely concede that there is a moral and religious aspect of intemperance; that if there is drunkenness the disease, there is also drunkenness the vice and the sin.


But sorrowful experience has shown me that there are many inebriates who are more sinned against than sinning (as there are many lunatics who have lost their senses through no fault of their own), who are so constituted that to drink in what is called “moderation” is beyond their power.

To impute immorality, vice, and sin to the dipsomaniac for his physical inability to stop at one glass is as unjust as it would be to impute immorality, vice, and sin to the idiot for his idiocy, or to the hereditary epileptic for his epilepsy. There are not a few human beings so saturated with the taint of alcoholic heredity that they could as soon “Turn back a flowing river from the sea,” and stay the progress of enteric fever in their person after the development of the poisonous typhoid symptoms, as arrest the march of an attack of alcoholism after the uncontrollable excitement consequent on their drinking the smallest portion of an intoxicating draught.

Alcohol is a swift and potent irritant narcotic poison. The majority of those who drink are happily not

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should have examined other conclusions of the Committee in the light of Dr. Dickinson’s investigations. The Committee may object that Dr. Dickinson’s cases are too few to justify deductions; but they are veritable facts as far as they go, and such facts as the Committee allow to be “more solid ground” than obtains in regard to the majority of their data. It is admitted even by those who take their data from the remarkable experience of the temperance insurance offices that in some points abstainers are more vulnerable than moderate drinkers, and we believe that the lung is one of the points. But, at any rate, Dr. Dickinson’s facts seem to show that much alcohol favours tubercular and other lung diseases.—Lancet, March 3, 1883.
susceptible to it; but, in virtue of an unalterable law of nature, there are large numbers whose susceptibility to the narcotic properties of this poison is so delicate that, though they are fully conscious of their weakness, and sick unto death of their slavery, once daily with an intoxicant, they fall prostrate before its might. When I see the thoughtless and unconcerned way in which such hereditary alcoholics, like other moderate drinkers, toss off their nip of ardent spirits, or toy with the class of mellow fermented wine, as I think of the family anguis in herba (snake in the grass) in all such beverages, however rare and high priced, ever ready to dart its envenomed fangs on the unwary and fold them in a deadly embrace, I involuntarily feel impelled to address them in the words of the Latin poet:

"Tantane vos generis tenuit fiducia ri?" + Why do these fall? Not use they are greater sinners than their fellows, not because they are worse morally, but because they are weaker physically.

The relations between inebriety and insanity are so close that in watching the varied phases of the former the expert is constantly reminded of the latter. The closeness of this connection must have been observed by the ancients, for one of the meanings of the Sanskrit verb mad was "to get drunk," and the Sanskrit noun mada denoted (1) intoxication, (2) insanity.

Aristotle said that "drunkenness is voluntary madness," and with the lification (which modern clinical pathological observation has revealed to us) that the madness is in many cases involuntary, there can be little doubt of the wisdom of the saying. At every stage of habitual, or even occasional inebriety, symptoms are developed which seem to be more allied to madness produced by a physical cause than to moral obliquity or badness of heart.

Take the stage of what is called "moderate drinking." A regular-living clergyman, or lawyer, or mer-

+ "Does such confidence become your birth?"
The Relations between Intemperance and Insanity.

with a favourite revolver, which he always kept ready for action. The only circumstance that prevented his killing anyone was, that he never drank immoderately except in some friend’s house where he was to sleep for the night, his friends knowing his eccentricity. On several occasions he slept in the same house with me in the United States, during a few of my frequent visits to your great and hospitable country. Night after night, for hours together, has he kept me awake, as he stood outside my bedroom door, loaded weapon in hand, shouting every few minutes, “Come out, I want to shoot you.”

Next morning he would be himself again, with no recollection of his nocturnal mania.

But why need I particularise? The thousand-and-one delusions to which periodical drunkards are subject, the crimes, which only the unceasing vigilance of others hinders them from committing, and the crimes which unhappily they succeed in committing, are well known to alienists as “confirmation strong as Holy Writ” of a temporarily insane state.

Look again at delirium tremens, what are

“*The things of hideous birth and fearful shape,*

*The creeping monsters and the horrid shadows,***

which make the terrified drunkard tremble with abject fear, but the hallucinations and illusions of an insane brain? True it is that when he recovers from his delirium he is of sound though not strong mind, but during the attack no one can deny that he was out of his mind.

Intemperance is a cause of insanity, and insanity is a cause of intemperance. Dr. Edgar Shepherd, of Colney Hatch, is of opinion that, directly or indirectly, 40 per cent. of British insanity springs from drink: and at the British Medical Association discussion at Cambridge, there was a general consensus of opinion that at least 16 per cent. arose from this cause.

From its characteristic effect on the brain and nerve centres, alcohol is not an uncommon cause of dementia: while idiocy from the alcoholic excess of parents has been noted by Dr. Howe, of Massachusetts, and by a host of skilled observers.

Alcoholic epileptic mania I have frequently met with. How often do we find the maniacal outbreak of the epileptic, during which he may be guilty of atrocious crimes, arise from epilepsy induced by alcohol. A son, at. twenty-two, of an English country gentleman, inherited £400 a year. He fell into bad society, learned to drink, and became a drunkard. Latterly epileptic attacks have set in once a month, in each instance followed by epileptic mania. There was no heredity, and he never had any symptom of epilepsy in childhood or youth.

I have a patient now, a well-to-do master builder, who when he takes more than two glasses of beer loses all consciousness. After the third glass he knows nothing. Yet he then begins to quarrel and shout, and finds his way home in such a violent mood that he smashes the furniture, hits out right and left at everybody near him, and raises such a commotion as rouses the whole neighbourhood. Next morning he will be as meek as a lamb; but during the alcoholic paroxysm, while he is raging like a lion, he is literally “insane.”

Once more, turn to the persecution phenomena of double consciousness from alcohol, which Continental observers have done so much to elucidate. An inebriate lady, sixty-four years of age, laboured under the delusion that a rejected suitor of her youth was continually on the look-out for a chance to assault her. She rushed into my house one day in terror, thinking that the unscrupulous Lothario was just behind her. This delusion persisted for years after her reformation. Yet all the time she knew that this was but a delusion. Such persecuting double consciousness has been frequently known to harass the hapless victims till death by suicide has terminated their sufferings, long after their abandonment of drinking. What are these phenomena but the phenomena of insanity?
On the other hand, the defective nerve organisation, the dim perceptive faculty, or the nervous exaltation of the insane, is apt to render those of unsound mind an easy prey to alcohol. So intimate are the relations of intemperance and insanity, that, in not a few cases, I have for a time been at a loss to discriminate between the two; and I am constantly confronted with puzzling cases on "the borderland," which I know to be cases of inebriety, but which I am unable to declare to be of sound mind.

Thus feebly have I endeavoured to comply with the request with which you have honoured me. The whole question of inebriety and insanity is an intricate and perplexing problem. If we have studied them without prejudice, the more we see of both, the more do we realise how much we have to learn. The careful study and the deep thought with which your National Association for the Protection of the Insane and your Association for the Cure of Inebriates are investigating the subject, with the brilliant work on neurasthenia and other nervous affections of your leading neurologists, will in time collect such a store of knowledge as cannot but lead to a clearer understanding of the phenomena and causation of both insanity and inebriety.

With all our ignorance we know, however, enough to warrant us in insisting on the treatment of habitual inebriety and insanity as diseased conditions rather than their punishment as criminal offences. Time was—not so very long ago—when the unhappy ones of unsound mind were treated with studied harshness, when of almost every establishment for lunatics it might have been said, in the words of your grand old Quaker poet—

"The groan of breaking hearts is there,  
The falling lash—the fetter's clank."

But a new era has dawned upon the world—cruelty has given place to kindness. The wasted and worn incurable, whom no scourge could rouse and no torture awake from

"A dumb despair, a wandering death,"

is amenable now to humane and skilled medical treatment, which is—

"Like a subtle flame,  
A breath of life electrical,  
Awaking and transforming all,  
Till beats and thrills in every part  
The pulses of a loving heart."

Deal with the inebriate as you have so successfully dealt with the maniac. Frown not on him as a hardened criminal. Condemn the sin while you stretch out a loving hand to the sinner. Remember that he has fallen by the power of a physical agency which has crushed to earth some of the noblest and most gifted of our race. Treat him, in short, as a patient, labouring under a baffling and inextirpable disease; and, amid many discouragements, such a measure of success will follow your true curative treatment, as will gladden your heart as men, while it will attest your skill as physicians.

The second part of your associated title is significant. You are an organisation for "The Prevention of Insanity." Prevention is indeed better than cure. Grand and God-like as it is to restore the reason which has fled, it is still grander and more God-like to preserve the reason and to hinder it from fleeing. Every step that you take in the path of preventive medicine will be a step in advance. The further your progress, the greater will be your power to discern and diminish the many causes of the disease which you are united to prevent, and the more truthfully will you be able to sing in the language of Oliver Wendell Holmes—

"And lo! the starry folds reveal  
The blazoned truth we hold so dear:  
To guard is better than to heal,  
The shield is nobler than the spear."
ALCOHOL IN WORKHOUSES AND ASYLUMS.

MARYLEBONE WORKHOUSE.—The report of the experienced and able master of the Marylebone Workhouse, Mr. G. E. Douglas, for 1882, has just been issued. The average daily number in the house was 1,577. While deploring the frequency with which some weak paupers returned on their day of leave, drunk enough to be quarrelsome, but not so intoxicated as to be refused admission, the indefatigable master speaks most favourably of the conduct of the inmates generally, especially of the old people. All this excellence of conduct and good discipline, though, as Mr. Douglas states, “during the year not a single ounce of ale, porter, wine, brandy, gin, or whisky had been ordered by the medical officer, and, except on Christmas Day, there had been no fermented or spirituous liquors consumed in the workhouse by the inmates.”

HUDDERSFIELD WORKHOUSE.—At a recent meeting of the Huddersfield Board of Guardians it was stated that a letter had been received from Dr. Scougal, medical officer of Fulstone, as to the adoption of the non-alcoholic principle in the treatment of paupers. After his appointment Dr. Scougal, who is a total abstainer, asked if it was absolutely necessary for him to order brandy, spirits, or wine along with beef-tea or other articles of extra food for sick patients; and he suggested that instead of wines and spirits farinaceous food and malt wine should be substituted. Acting upon instructions, Dr. Scougal tried the system for six months, and in writing to the Board he said that patients improved more rapidly on the use of malt extract, Lloyd's food, and such things, than they did when they had brandy or wine. Several patients had recovered far more rapidly under a non-alcoholic treatment than under the other treatment; and he expressed the opinion that the non-alcoholic treatment had the merit of economy. After a short discussion, it was decided not to make any change, but to leave it to the medical officer.

CHATHAM WORKHOUSE.—At a meeting of the Medway Board of Guardians Dr. W. Buchanan (the house surgeon), reported that since he had stopped the supply of wines, spirits, and beer, the working of the building had been much more satisfactory. There had been no disturbances and quarrels as formerly, and all were satisfied with the new arrangements. The lunatics are much better now than when they had liquors allowed to them. The whole of the hospital was better now than previously, although the number of cases brought in had been larger. A question had been raised as to whether the withdrawing of the wines, spirits, and beer, tended to prolong the stay of invalids in the hospital; but his experience was that it had the opposite effect, as there were now no inducements for them to stop. Then there was the point as to mortality; this he had carefully gone into and found that although the cases of sickness had been more numerous the number of deaths during the past six months had been six less than in the corresponding period of the previous year. The Clerk said that whilst going through the accounts he had been struck by the fact that the entire cost of wine, spirits, and beer—including the beer allowed to the officers and servants—was, for the last year, under £100. In the hospital it had not been more than £3. He had known it to have been as high as £800 or £900.

HEREFORD ASYLUM.—In the 11th annual report of the Committee of Visitors of the Hereford County and City Lunatic Asylum for the year 1882 the following significant statement appears:—“Milk is now the general beverage, and only two or three patients complained to us of its substitution for beer.” The medical superintendent reports that at dinner skim milk is given instead of beer, and at lunch cocoa is provided. He adds:—“The change has been in no
way prejudicial to health, but on the contrary, according to my own impression and to the figures, decidedly if not greatly beneficial. The amount of discontent was trifling, and almost entirely on the part of well-known topers. Those who appeared to regret the change, and who yet were temperate people worthy of consideration in the matter, were only some three or four.” The average weekly cost for drugs and wines and spirits in all was only one farthing!

Proceedings of the
British Medical Temperance Association.

THE MORTALITY FROM ALCOHOL.

At the Quarterly Meeting of the Association, held on Tuesday, February 20, at the Rooms of the Medical Society of London, Dr. Morton, of Kilburn, read an important paper on the “Mortality from Alcohol,” which is given in full elsewhere.

Dr. C. R. Drysdale, in commencing the debate, remarked that the report of the Harveian Society was most important as a corroboration of the views held by Dr. Richardson and Dr. Norman Kerr concerning the high mortality caused by alcohol. At the same time there was a great difficulty in coming to a conclusion on the cause of death, when there are so many causes. His own experience was that alcohol caused a very great mortality, but he could not think that women died of alcohol in anything like the proportion of five to nine with men. He was persuaded, too, that alcohol was a frequent cause of death in chest diseases, such as chronic bronchitis and emphysema. Phthisis, too, in his experience, was often caused by drinking, and both in young and old persons drunkenness will cause consumption. Alcohol, of course, causes liver disease and insanity, and this is a cause of death. He could not, in short, think that alcohol ever prevented death in any way, whilst it evidently was one of the most prevalent causes of death and disease.

Dr. Gray, of Cannock, was of opinion that the alcoholic mortality in the country was at least as great as indicated in the report. He had known of many cases of death from drink among women.

Dr. H. W. Williams could testify to the accuracy of the report as to the great amount of death among females occasioned by intemperance.

Dr. Paramore regretted that he must corroborate the report as to the fatal effects of drinking amongst women. He attributed not a little of it to the evil effects of grocers’ licenses.

Dr. Ridge thought Dr. Drysdale a little mistaken in setting personal experience against statistics collected from so many sources. There was far greater probability of fallacy in the necessarily limited experience of any one man, than in the wider field traversed by this committee. Many of the diseases to which people succumbed in later life were indirectly due to changes in their constitution years before. If a person young in life was addicted to drink and then reformed, the consequences of his debauchery might follow him, and yet be forgotten as a cause of the disease that ultimately carried him off. The number of cases of disease put down to alcohol was likely to be fewer from want of knowledge of the original facts. He hoped that this investigation would
lead to a wider one, and that it would be conducted under the auspices of the British Medical Association. Possibly they might also recommend a method by which certificates might better define the cause of death than now.

Surgeon-Major Francis spoke of the connection between beer-drinking and rheumatism, and related the case of a man who was cured of this soon after he abstained from that beverage. It was beyond question that a large percentage of liver disease was due to alcohol; but some people suffered in this way who never drank alcohol at all. This report did not touch that very large class who became incapacitated for the duties of life mentally and bodily by reason of drink. He thought this was one of the most valuable inquiries they had had for some time.

Dr. Fairless pointed out that alcohol in many cases of death might be the chief factor, but was disguised under some other cause. Now, they could never arrive at proper results unless the true factors were given. The real cause of death was often veiled.

Dr. Morton said that the experience of Dr. Drysdale was that of a physician and not of an ordinary medical practitioner, which might account for the difference of his observation. He (the speaker) believed that heart disease was largely caused by alcohol, particularly what had here been described as structural disease of the walls of the heart. In the deaths recorded in a large asylum not one was put down to alcohol, and to look at suicide one would suppose that it had nothing to do with drink. Therefore the figures of the Harveian report erred probably in underestimating the deaths due to alcohol. He thought grocers' licenses had much to answer for respecting female intemperance, and the law should be altered.

Dr. Norman Kerr (who, in the absence of Dr. Richardson, the President, had occupied the chair), in proposing a cordial vote of thanks to Dr. Morton, said that this was a subject of national importance, and should command the attention of the Legislature if it desired to attend to the health of the people. The medical profession, without entering into party politics, should make representations to the Government, so that laws might be passed to increase the life and health of the community. Dr. Kerr proceeded to show the great difficulty of arriving at the exact facts in an inquiry like this, and concluded by endorsing the suggestion of Dr. Ridge that this matter should be dealt with on an extended scale by the British Medical Association.

On the motion of Dr. Drysdale, seconded by Dr. Gray, a resolution was passed condemning grocers' licenses, as detrimental to the health of the community, and urging that they should be discontinued.

The proceedings then closed.

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NEW MEMBERS.

Dr. Crabbe, Birmingham | Dr. Gould, London, N.

NEW ASSOCIATES.

Rev. Christo Crowe, Aberdeen University.
G. Currah, Esq., Guy's Hospital.

Enfield, March, 1883.

J. J. Ridge, M.D.,
Hon. Sec.
NURSES' TEMPERANCE UNION.—We are glad to report the formation of a Temperance Society for Nurses throughout the United Kingdom. The members "promise, by God's help, to abstain from all intoxicating drink, and to use all means in my power to alter the habits and customs by which drinking is encouraged." The honorary secretary is Miss A. T. Bristow, The Park, Dumurr, Co. Antrim, or Nurses' Home, Belfast.

THE DALRYMPLE HOME.—At the first annual meeting of the Dalrymple Inebriate Home Association it was reported by the Honorary Secretary, Dr. Norman Kerr, that upwards of forty sites had been inspected, but one had not yet been secured for the proposed Home, although it was expected that an offer now under consideration would be accepted. There was £500 in the bank, and £1,000 more was promised. A member of the committee has also offered £500 if nine other sums of an equal amount were raised. A very influential list of vice-presidents has been published.

REMARKABLE LONGEVITY.—In a letter to the Medical Press and Circular (March 7) Dr. O'Flanagan, of Houghton-le-Spring, Durham, gives an account from La Presse of February 7 of "a Russian peasant, named James Zygeloif, who had just died at Odessa, at the age of 147. Of the rest of the family, his son is still alive, at the age of 115 years, his grandson at 85 years, and his great-great-grandson at 40 years. More wonderful still, Zygeloif never smoked nor drank any alcoholic liquors in his time. And the history ends by saying that this is a good point for the temperance societies."

MILK v. ALCOHOL IN THE TREATMENT OF INSANITY.—"The greater my experience becomes," writes Dr. Clouston, in the Annual Report of the Royal Edinburgh Asylum for the Insane, "I tend more to substitute milk for stimulants. I do not undervalue the latter in suitable cases; but in very acute cases, both of depression and maniacal exaltation, where the disordered working of the brain tends rapidly to exhaust the strength, I rely more and more on milk and eggs made into liquid custards. One such case this year got eight pints of milk and sixteen eggs every day for three months, and under this treatment he recovered. I question whether he would have done so under any other. All acute mental diseases, like most nervous diseases, tend to thinness of body; and therefore all foods, and all medicines, and all treatments that fatten, are good. To my assistant, and nurses, and patients, I preach the gospel of fatness as the great antidote to the exhausting tendencies of the disease we have to treat; and it would be well if all the people of nervous constitution would obey this gospel."

PROGRESS OF MEDICAL OPINION.—Dr. H. Nankivell, speaking at Bournemouth, said he thought the medical profession had during the past twenty years fairly boxed the compass on the temperance question. When he was a student in the London hospitals it was a practice whenever a fever case came in to order at once three ounces of brandy; whatever the condition of the patient might be this was a matter of routine, and if the house surgeon had neglected to order that prescription he would probably have found himself taken to task by the physician when he came round next day. He was thankful to say, as they were an advancing and progressive profession, they had found out that was wrong, and had not been ashamed to acknowledge it and to alter their practice. He did not think there was a hospital in the country now where brandy was ordered in that way to fever patients; and in private practice he believed the cases in which medical men found they were obliged to order stimulants would grow less and less.
A SKETCH OF FERMENTED DRINKS, ANCIENT AND MODERN.

By Charles R. Francis, M.B.

"Wine, that maketh glad the heart of man," &c., is, with similar texts from Scripture, commonly adduced, by those who advocate intoxicating drinks for ordinary use, as a sufficiently cogent argument in favour of their adoption. The Bible countenances these drinks, it is urged; and, therefore, it cannot be wrong to use them. Intoxicating they undoubtedly are, it is freely admitted, but only if taken to excess. The intoxicating quality need not, it is added, be developed. That depends upon the drinker. It is not necessary, in this paper, to dwell upon other reasons for not indulging in beverages of this description; but what do their advocates say to passages of a different purport from the same Scripture, e.g., "Wine is a mocker," "Look not on the wine when it is red"? &c., &c. From which texts, taken in conjunction with the fact that wine was provided by our Lord at a marriage feast, it may, I venture to think, fairly be inferred that, in the most ancient period of the world's history as well as in the present day, two kinds of wine were in existence—intoxicating and not intoxicating. It can hardly for a moment be supposed that the wine, which the Jewish priests were forbidden to touch, and against which the Almighty in His Book has issued so many warnings, would have been manufactured by His Son; and that, too, on an occasion when there would assuredly be no stint to the circulation of the liquor. The light of modern science, the facts elicited by conscientious travellers, and the customs of
A Sketch of Fermented Drinks, Ancient and Modern.

a conservative people, all tend to support this inference. Men who are unacquainted with the results of scientific teaching, doggedly and dogmatically maintain that all wine must be intoxicating, though they cannot tell why. Others, who have some glimmerings of the truth, affirm that it must be so because the juice of the grape, or whatever be the saccharine substance from which the drink is to be prepared, ferments immediately on exposure to the air. This is a popular fallacy, which has been ably exposed by Dr. Norman Kerr and others. In the absence of certain conditions which favour fermentation, this process, by which the intoxicating agent—alcohol—is produced, does not take place. If the grape juice, or the saccharine substance, be kept at a temperature below 40° Fahr. or above 140° Fahr., for example, it remains in statu quo. Sceptics, betraying their ignorance of the true nature of alcohol, exultingly speak of it as an essential ingredient in wine, &c., because it is spiritual, and, so, emblematical of what is spiritual! Sneeringly pointing to wines that are unfermented (therein admitting their existence), they say “You have either to almost boil, or freeze, or put some antiseptic into, them, to prevent further changes, which would render them unfit for use: whereas alcoholic wines are permanent, and therefore more suited for administration at the Lord’s Supper.” Such disputants are not of course aware that these wines, if exposed to the air, will, after turning sour, finally become as unfit for use as the others. The schoolmaster is abroad: and we may reasonably hope that the coming generation will be far more enlightened on the alcohol question than the present. The idea that wine, coloured by blackberries and logwood, represents the fruit of the vine, will have become exploded; and society will realise that, when our Saviour, holding in His hands the cup, spoke of the contents as His blood, it is far more likely that He referred to pure grape juice, before it had lost its resemblance to this fluid, than to the liquor which, deprived of its nutritious and life-giving properties, had become converted into a poison. The term wine is so generally associated with a fluid which exhilarates, and which, if taken in excess, intoxicates, that the idea of there being a wine, which does neither the one nor the other, is not very readily received. You assert, say the incredulous, that travellers speak of wine that does not contain alcohol. “Travellers’ tales,” they add. But, when a traveller like Rob Roy tells us that he found, in ordinary use amongst the peasantry of Norway, a non-alcoholic beverage which they called wine, we cannot but believe him. And when we find the Jews of the present day using in the Passover both kinds of wine, a blessing being expected as much upon the kind which is simply the juice of raisins as upon that which contains alcohol (this last,
it may be observed, is, when used, freely diluted with water), the existence of unfermented wine must be admitted: and that both kinds have been in use in different parts of the world from the remotest ages. In all fermented drinks the intoxicating agent has always, of course, been alcohol—one or other of the inferior varieties, probably. The purer kinds, as ethylc alcohol (and methylated spirit procured by the destructive distillation of certain woods), became known as the art of distillation progressed; though the former is always present in genuine wine, made direct from the juice of the grape.

The history of the origin of fermented drinks is not very clear; indeed, there may be no history to record, no story of their discovery in one part of the world and importation into others. The property possessed by saccharine fluids of turning, under favourable circumstances, into intoxicating drinks, has doubtless been discovered, wherever these drinks are known, by accident; just as the properties of the tobacco and tea leaf, of poppy juice, coffee-berries, &c., have been discovered. In the first instance, amongst aboriginal races, mere exposure of the semi-fluid mass sufficed, the thicker portion being separated after a time by filtration. The national drink of Mexico—pulque—was originally, I believe, thus made, as also that of South Africa—pombe. Contact with civilisation has led (not, alas! in these countries alone) to the adoption of stills.

Speaking generally, alcoholic drinks are taken to stimulate and to cheer, or to narcotise and to soothe. They are supposed to be, in one way or another, internally and externally, a panacea for every conceivable abnormal condition, disease, or accident, to which mankind is liable. To warm the "cockles of the heart" when one is cold, to assuage thirst when heated and fatigued, to assist digestion, to induce perspiration, to increase the secretion of milk in nursing mothers, to act upon the bowels or kidneys, to promote sleep, to relieve pain, to give tone to the system and to fortify it against malarial and other noxious influences; to act, in short, as a calorific, a refrigerant, a digestive, a diaphoretic, a galactagogue, a purgative, a diuretic, a narcotic, an anodyne, a tonic, and last, though far from least, internally as well as externally, an antiseptic;—a variety of attributes which, if alcohol was deserving of them, should raise it to a far higher pinnacle of fame than that which it has already attained. But the catalogue is too contradictory. Says the poet,—

"When Science from Creation's face
Enchantment's veil withdraws,
What lovely visions yield their place
To cold material laws."

So, probably, no popular delusion has been so ruthlessly ex-
posed, no theory so completely overthrown by the evidence of unexpected facts, as this almost universal belief in alcoholic liquors, both as drink and medicine. The manufacture of fermented liquors has now, after a century and a-half of skirmishing, encountered a combined attack which, as seen already in the fall of revenue and the depreciation of the publican’s property, must in course of time become very materially diminished.

It may be interesting to consider to what an enormous extent the taste for exhilarating (I will not say intoxicating) drinks has been met by those whose business it is to pander to, and to profit by, it. The promotion of sociability has undoubtedly had a large share in stimulating their manufacture; hence the variety of champagnes, of clarets, of sherries, and of other wines which are made to suit the educated palates of bibulous connoisseurs. The belief in malt liquor as a tonic has led to the production of beers, ales, porters, stouts, two-pennies, three-threads, half-and-halves, entires, &c., differing from each other mainly in hue caused by using malt slightly or highly dried, with the addition, or otherwise, of colouring matter, but in all of which the really nutrient property of the malt has vanished and given place to a mere stimulant, associated with a modicum of saccharine, or heat-producing, material.

Beer is derived from the Hebrew bar (corn), and the Saxon bere (barley)—corn liquor. Some beers are strong in alcohol, whilst others—those mostly that are home-brewed—contain but little. Like other fermented drinks, they have, during the past and present century, greatly increased in strength.

The ancient Britons were evidently a sober people, living upon venison, milk, and water. Their several conquerors—Romans, Saxons, and Danes—taught them the love of strong drinks, and

"The sweetness of mead,
In the day of their need,
Was their bitterness; blunted their arms for the strife;
Became a friend to the lip, but a foe to the life."

Manufacturing their intoxicating beverage originally from honey, they, in time, learnt to divert corn from its legitimate use to the same object. It has been doubted whether William the Conqueror would have gained the battle of Hastings if the Anglo-Saxons had been better prepared for the fight. Instead of taking rest, they passed the previous night in revelry; and were probably more fit, in the morning, for bed than for battle! Wines were introduced into England by the Normans; and they became so popular, that no feast or festival was considered to have gone off well without an enormous consumption of them. We are told that, in 1466, when George Neville was made Archbishop of York, 100 tuns of wine and 300 tuns of ale were provided at
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his installation, besides other intoxicating drinks. It seems probable that the *pulque* of the Mexicans—which is at once a drink, a food, and a medicine—might, but for the anti-alcoholic movement which is at work in all quarters of the globe, be displaced by the English and American beer, which is being imported into Mexico. At present, the corn of the country is not diverted from its proper use; but the natives are content to make the national beverage from the agave, a species of aloe, from the fibre of which is also prepared an excellent cordage. Agave juice, before fermentation, acts as an aperient. *Pulque*, the fermented liquor, is somewhat sour in taste, and of the consistence of barley-water. It is highly spoken of by travellers, who express a hope—like Cetewayo from South Africa with reference to *pombe* the beer of that country—that more potent alcoholic drinks may be kept away from them.

The taste for strong drink has flooded England with various forms of the very "devil in solution," to the present aggrandisement of Dives and the terrible degradation of his poor neighbour Lazarus; who, welcome enough as a purchaser at the rich man's store, is driven from his gate when prolonged and oft-repeated visits to those stores have rendered him penniless and helpless. Shame upon a state of the law that renders such things possible in a Christian land!

"And, oh! thou London town (she* cried),
Spite of thy churches and thy preachers,
Thy Christian virtues vaunted wide,
Thy books, thy schools, thy many teachers,
Thus dost thou charter death and sin;
Thus of God's laws art thou a scorners,
And plantest hell, by licensed gin,
To snare the poor at every corner."

And not only so. The white (European) trader pours rum into *heathen* lands, whilst self-denying missionaries, giving up all for the love of Christ, endeavour to introduce the Gospel. Madagascar, on the East Coast, is an especially sad illustration of this. It is, of course, the same spirit that animates the fermented beverages, be they what they may; but in spirits, properly so called, we have it in its native virulence. Valuable as a spirit—as alcohol in short—both in medicine and the arts, it is prepared, in order to gratify a vitiated taste, direct from various substances—gin from barley and coarse rye; whisky from the former, chiefly; and rum from molasses; genuine brandy being alone the product of distillation;—"doctored" according to the requirements of purchasers; impregnated with

* The Beautiful Angel.
a diuretic, to give it, as it were, a quasi-professional character; and then offered to the public as an agent of medicinal value, or as a cordial.

Gin is a good illustration, amongst alcoholic beverages, of what "doctoring" can effect to suit individual taste. Prepared, as above stated, from malted barley and coarse rye, and mingled with juniper, it probably does more harm than any other of these devilish agents, whilst it is the source of greatest profit to the spirit merchant and publican. If a cordial be needed, oil of caraway, coriander, bitter almonds, and more juniper are added. To sweeten it, vitriol, spirits of wine, and loaf sugar, are considered necessary. To make it smooth or creamy, beaded or pearly, sugar, light garlic, Canadian balsam, or Strasburg turpentine, are required. Horse-radish gives piquancy; caustic potash makes it biting; alum solution and carbonate of potash force it down; but, if the forcing be too great, cassia, and chili steeped in spirits of wine, bring it up again to the desired mark. Gin is frequently adulterated with amyllic alcohol (fusel oil)—that which gives to Hollands its dangerous character—and more readily develops delirium tremens, or otherwise shatters the nerves, than any other spirit. It is often taken, and even occasionally prescribed, by medical practitioners, because of its diuretic property; but, as this is derived from the juniper, the latter might be given without associating it with what is capable of leaving behind a sting. The remedy, however, would not then be so nice, nor the doctor recommending it so popular.

Gin, brought to England by English soldiers on their return from the wars in Flanders—where it is drunk to keep off (?) ague—appears to have been the first in order of the four popular "spirits" now so common in this country; brandy, rum, and whisky making up the sequence in the order mentioned. Brandy, when pure, has nothing extraneously injurious about it, though sometimes it, too, is adulterated with fusel oil. Potato brandy—a very inferior liquor—contains it. The peculiar ethery aroma, characteristic of good brandy, is natural to it. The colour is due to burnt sugar. The best brandy is distilled from the wine left in sherry casks, or from the husks of grapes from the wine-presses. Whisky, in this country, is prepared principally from malt, usually kiln-dried with peat, or turf, which gives the smoky flavour to some whiskies. Potheen whisky is so called from the still in which whisky bearing this name is made. Its yellow colour is derived from the interior of sherry casks, or from the wine lees with which it is mixed up. There are two kinds of whisky—one for the rich, another for the poor. Smoothness and softness, effected by blending, are the desiderata for the former, whilst, for the latter, a spirit that will bring tears to the eyes is the spirit that
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pays!*  *Rum* (so called by a sort of contraction of saccharum) is made from molasses, or fermenting sugar, or treacle. Its flavour, apart from the spirit, depends on an essential oil. It also contains butyric acid. Rum, flavoured with the juice of the pineapple, is a popular spirit in the West Indies, though less wholesome than its congener in the East Indies, where great pains have been taken by the Government to obtain it pure for the troops. The rum of the *bazaars* there, however, is probably as impure as any in existence. As if to facilitate the Devil's operations, ardent spirits—the "hot and rebellious liquors" of Shakespeare—were cheapened towards the close of the sixteenth century; whilst the Beer Act of 1830, contrary to the expectation of beneficent reformers, made the facilities greater.

*Absinthe.*—A word or two about the spirit consumed by our neighbours across the Channel may not be out of place. What gin does for our working classes absinthe does for all classes in France; and, unhappily, it is being introduced into England. No beverage can be more pernicious. One hundred quarts, says Dr. Richardson, who has carefully analyzed it, contain five drachms of absinthium, or wormwood. What there is fascinating about absinthe I could never understand. When a student in Paris many years ago, I tasted it, but only once! The fascination depends, probably, upon its effects on the nervous system; which, however pleasurable at first, are eventually very disastrous if the beverage be taken too freely. When thus indulged in, it, whilst producing partial insensibility, causes an ideal existence of long intervals of time, with frightful hallucinations, accompanied by intellectual weakness; ending at length in unconscious struggling, as if for life. One of the peculiarities of absinthe is to produce a morbid craving for food, which, if given way to, is followed almost as a matter of course by indigestion.

Of fermented wines the world has seen a great variety. Whilst practically, without the one essential agent which, apart from colour, taste, aroma, and so forth, give them life, they would be little else than sugar and water coloured, fashion has done so much for these wines that, including those of Vesuvius, Tuscany, Lombardy, Naples, Sicily, Sardinia, Corsica, Genoa, Madeira and the Canary Islands, France, Switzerland, Germany, Austria, Hungary, Spain, and Portugal, there are now nearly 100 varieties manufactured from simple grape juice. After the grapes are separated from the stalks they are washed and put into the vat,

*Sir Samuel Baker boasts of having taught an African king to make whisky from potatoes grown for the purpose! The king had never before tasted such good stuff! Sir Samuel had cultivated the potato and manufactured the spirit for the cure (?) of repeated attacks of chronic ague.*
or large cask open at one end, called barrique, and then crushed by machinery. In some parts of the Continent, and at the Cape of Good Hope, the juice is pressed out by the feet of naked men. As fermentation proceeds, and carbonic acid rises to the surface, these men are compelled to retire, giving place to others. As the relays emerge, their faces are seen to be livid; their tongues hang out of their mouths; and, coloured as they are by the juice of the grape, they present a startling, though at the same time a melancholy, spectacle. The amount of alcohol in wines varies from 7 or 10 to 50 per cent. The genuine wines, or those obtained on the spot, contain the lesser quantity, whilst those that are branded for exportation contain the larger. The House of Commons Committee, which reported upon the subject in 1852, stated that all wines intended for exportation were first brandied with an inferior kind of alcohol, and afterwards adulterated in various ways. This adulteration has existed from the days of the Greeks and Romans; but, whereas formerly the offender when convicted was severely punished—one John Jacob Ernlie, of Eslingen, was beheaded for adulterating with a forbidden compound—now the process is carried on secundum artem, wine mixers being published as guides to the adulterator!

The colour of a wine is really a matter of no moment, but importance has become attached to it; consequently, a brisk trade has been driven in colouring materials, some of which, as blackberries, bilberries, and elderberries, are largely cultivated for the express purpose of colouring wines. As a rule the substances used for this purpose are not injurious: but when a believer in full-bodied port prescribes it for his patient, he does not mean a fiery fluid "doctored" with fusel oil, sweetened with sugar, and coloured with logwood.

It is frequently urged that, in prescribing wine, one is not only giving alcohol, but other ingredients, which unite to make a really useful and pleasant remedy. There is, doubtless, a grain of truth in this; but the extent of the supposed value may well be doubted.

Acids.—Of the acids found in grape juice the principal are the malic and tartaric. Of the latter—so subtle are the distinctions in chemistry—there are six varieties. The riper the grape the more the tartaric acid. Fermentation reduces the original amount of these acids, though they are still found in the wine. Some acids not being in the grape juice are formed during the fermentation, as formic acid, succinic acid (found also in amber and some plants), carbonic acid, tannin, the oxidation of which last causes the crust of the port, and, to some extent, the colour of wines. The effect of these several acids acting upon the alcohol, both during and after fermentation, is to form a kind of ether—
œnanthic ether—(which has a special influence on the nervous system), and aldehyde that, with the ether, causes the aroma, or bouquet, characteristic of some wines. In some aromatic wines a kind of essential oil seems to be produced. For the preservation of the aroma, considered so valuable in wines, the bottle should be laid flat; so that there may be no room for the oxygen of the air, which also favours the tendency of alcoholic liquors to turn acid, to enter.

Champagne, always recognised as a royal wine, acquired its status as such through Louis XIV. of France. Introduced about 200 years ago, it was then known as the "Cork, or Stopper Jumper," and "Devil's wine." To secure effervescence it was bottled at certain changes of the moon! Five pairs of hands are required to cork and wire a bottle of champagne; and from 1,200 to 1,500 bottles are corked and wired daily—the bottlers being obliged to wear wire masks over their faces, and gloves on their hands. The pressure from the imprisoned carbonic acid is enormous. We have it on the authority of Drs. Thudicum and Du Pre that it is equal to thirty-four atmospheres: and the cork therefore, intended to resist it, must be proportionately strong; which adds, of course, to its price. Notwithstanding, there is considerable loss from breakage; and, between March and October—especially during the first fermentation—the noise from the bursting of bottles resembles the reports of pistols.

Sherry.—A recent traveller from the Continent, on arrival at Dover, expressed to a fellow-traveller his satisfaction that now he should enjoy a glass of English (?) sherry. Blissful ignorance! Little did our friend know that to obtain a glass of really good sherry—so called—he should retrace his steps. The English variety would probably be as bad as any he could meet with! Like most other connoisseurs (!) in wine, the traveller was not aware that, however good might be the original sherry at Xeres, or other wine districts in Spain, its fine rich ethery flavour would disappear on arrival at Cadiz, where there is a mixing station;—the good sherries being used there, moreover, for improving the inferior wines of Spain. It is but little genuine sherry that reaches the English shores; and it would hardly be found in an English hotel.

Madeira became a popular wine in England when the Prince Regent (afterward George IV.) made it fashionable; just as Charles II. had introduced French wines in place of malmsey and sack. The example of royalty would naturally have many followers. For many years past—ever since the vine trees in the island were destroyed by an oïdium—no genuine madeira has, it is said, been obtainable. Dry madeira is supposed to be identical with canary, palm, or sack. The percentage of alcohol is
small—not more than 7 or 8 per cent. For a man of Falstaff’s convivial habit a pint would be a small allowance, though doubtless he drank many pints.

Port.—There is no wine more adulterated than port, none more “fortified” with extra spirit. It seems improbable that the three-bottle dean of a former generation could have stowed away so large an amount of such port as appears at table in the present day. The potency would surely have asserted itself before the end of the second bottle, though the bibulous capacity of some “seasoned vessels” is apparently unlimited.* Genuine port is now all but unknown out of Portugal—the Portuguese Government not allowing it to be exported. A large quantity of English spirit is, however, imported for the express purpose of fortifying the good wine. What with mixing, thickening, firing, adding boiled grape juice, brandy, an inferior spirit, burnt raisins, logwood, caramel, and darkening with damson juice and elderberries, a very incongruous compound is provided. Between three and four million gallons of this concoction have been imported into England in a single year under the name of port!

Claret, as containing less alcohol—there is seldom more than from 7 to 10 per cent.—than any other Continental wine, is much prescribed where a gentle stimulant is needed. The claret, known as Chateau Margaux is prepared from vineyards which are the property of a Spanish banker; and the Margaux Lafite is one of the sources of Rothschild’s enormous wealth. These, with the best Medoc, are considered choice wines: but, as for Spanish wines, so for these, the adulteration is ready. At Bordeaux the finest clarets are mixed, moreover, with inferior French wines; and, for English consumption, are fortified with brandy.

Burgundy requires such very careful doctoring, it is said, that the Continental wine merchant calls it his “child of anxiety.”

After all, there is really no medicinal or other value in wines, apart from their stimulant character, which can justify us in resorting to them on account of such supposed virtues. What they do contain of a medicinal nature may be much more satisfactorily prescribed in a more direct and less hazardous way. It would appear that, in all ages, wine, or a fermented drink of some description, has been considered a desirable vehicle for administering a remedy in disease, to relieve pain, or to promote some natural function. Amongst the Roman wines, of which there were from forty to fifty varieties, one—murrhina—was an anodyne. It was given to persons about to suffer torture, to

* The port, which was brought to England after the treaty of Methuen in (I think) 1730 must have been cheaper and better than in subsequent times, when the treaty was annulled.
deaden the pain. This may have been the wine offered to our Saviour on the cross. Some of these wines were made with salt water to promote digestion. Several were unfermented. Their Falernian corresponded, it is believed, to our madeira; and the malmsey of a later date, in which the brother of Edward IV. elected to be drowned, was represented by a sweet wine known as Passum Creticum. Dr. Richardson’s proposal to give alcohol au naturel in diseases where alcohol is indicated is scientifically correct, and especially well suited for quondam drunkards. But with the general public it would hardly be popular. They complain that medicine is already as nasty as it can well be, and they are better satisfied with the physician if he successfully endeavours to disguise this nastiness. “Don’t add another to the list of disagreeable remedies,” they not unnaturally exclaim. “If a stimulant be necessary, let me have it in as pleasant a form as is available.” This, however, is a prejudice in favour of an accustomed pleasure (?) that, if medical men will be firm, will be overcome in due course. My own impression is that alcohol is very rarely indeed required in disease, and that diffusible stimulants are far preferable.

One of the popular fallacies of the day is that home-made or British wines contain little or no alcohol, and that they may therefore safely be given to children; whereas, in truth, they sometimes contain a great deal. Even elderberry, cowslip, orange, and coltsfoot wine contain 8 per cent.; and in ginger wine sometimes over 50 per cent. is found. Cyder and perry, looked upon as such harmless drinks, contain from 5 to 9 per cent., quite sufficient to rouse the appetite for intoxicating liquors. Sweet wines are doubly dangerous, on account of the attractive form in which they are presented to children, some of whom have never before tasted such nice drinks!

The sins, whether committed by our ancestors or ourselves, and for which we suffer in loss of mental or bodily health, are regarded by the ungodly or irreligious as pleasant in the actual commission, whilst the remedies for them are reputedly disagreeable—a just punishment for the indulgence. The love of intoxicating drinks is, with reference especially to results, a great sin; but the radical remedy, viz., total abstinence from them, is quite the reverse of disagreeable. The abstainer, improved in health and in pocket, looks back upon his past life with repugnance and regret. He recognises his utter folly in having expended large sums upon a sham; and now, his manhood no longer enslaved by a treacherous and depressing deceiver, he is prepared to take his place in the great army of social reformers, who are urging such a successful warfare against the common enemy of his country.
INSANITY AND INTEMPERANCE.

That free indulgence in intoxicating liquor is a prolific cause of the appalling amount of insanity, which, unhappily, is steadily increasing in this country, has long been known to intelligent temperance reformers. Those persons who have had no sympathy with temperance reform have affected to be incredulous as to the production of any but an unimportant proportion of our insanity from drinking, and have delighted in sneers at the statements of temperance advocates on the score of "exaggeration." A writer in the Contemporary Review for June follows this hackneyed custom of attributing extravagance to teetotal assertions of the great influence of strong drink in the causation of madness, declaring that "all the advocates of temperance have ridden this horse to death." The "horse" referred to is the well-known statement by Lord Shaftesbury that 60 per cent. of the insanity of the United Kingdom arose from drinking.

As the noble and philanthropic Earl makes no profession of teetotalism, it is difficult to see how the total abstinence reform can be held responsible for Lord Shaftesbury's opinion; and most impartial observers will probably be of opinion that temperance reformers were wisely chary of questioning, except on unusually strong evidence, the conclusion of the Chairman of the Commissioners on Lunacy. It ought not to be forgotten, though the writer in the Contemporary ignores the fact, that a thoroughly competent authority, Dr. Edgar Shepherd, of Colney Hatch, a few years ago publicly gave it as his deliberate opinion that 40 per cent. of the insanity in Great Britain arises one way or another from the excessive use of intoxicating beverages.

The simple truth is that total abstainers have given no estimate whatever of the proportion of mental aberration arising from drink. They have contented themselves with taking the estimates and figures of experts and others, who from their official position may fairly be supposed to have the opportunity of arriving at the truth. Whether strong drink, directly and indirectly, is the cause of 60 per cent. or 40 per cent., or 14 per cent. of insanity in the United Kingdom, the friends of total abstinence justly hold that the insanity caused by alcohol is preventible, and ought to be prevented, by the general adoption of a strictly temperate habit of living.

A curious feature in the article in question is the attempt to make out that the drinking of wine never can produce insanity. It is indeed strange how prejudice and force of habit blind one to the truth. It is true as a general rule that the stronger the dose of poison the more intense the poisonous effect, therefore,
the irritant narcotic influence of ardent spirits is more evident than the influence of an equal volume of ordinary fermented wine. The difference, however, is not one of kind, but of degree. The alcohol in fermented wine is practically the same alcohol which we find in whisky or brandy, and it would indeed be a remarkable occurrence if the stronger liquid maddened and the weaker liquid never could produce madness. Accordingly we find that intoxicating wine does produce insanity. Look at a man excited with champagne. Is he not half mad? Look at a man boisterously drunk on port? Is he not, for the time, wholly beside himself? Under the brain-disturbing sway of intoxicating wine even the wisest of men say and do things which can be said to be the words and deeds of a man mad, at least for the time. The very statistics the writer gives as to the increase of insanity attest the power of vinous intoxicants to swell the numbers of the insane. The introduction of cheap intoxicating wine into this country, which a great statesman achieved in the interests as he fondly believed of temperance, and the increased wine drinking of the British people have been, to say the least, contemporaneous with a corresponding increase in the extent of insanity.

The writer does all in his power to minimise the influence of alcohol as a factor in the causation of insanity. For example, he classes all the cases of hereditary or congenital madness together under a separate heading from those in which alcohol is supposed to have played a leading part; yet who does not know that there are numbers of persons with an inherited proclivity to insane moods, who never do break out into maniacal attacks, unless when labouring under the excitement occasioned by drinking to excess? Just as many persons, after an attack of heat apoplexy, in India or elsewhere, have an outburst of uncontrollable mania after a spell of drinking, and show no symptoms of cerebral disturbance at any other time.

Let us take the account of the writer in the Contemporary with all its drawbacks, and what do we find to be his conclusion? That "nearly one-third of the insanity in the kingdom is the result of intemperance." This is a terrible tale of misery and distress, terrible and appalling enough to arouse the most callous to a resolute determination to lessen, and, if possible, to put an entire end to so shameful a record. According to the Contemporary essayist, in addition to the 14 per cent. of insanity produced in England by drink, there are 23,800 idiots among us who owe their idiocy to drunken parents! After all, this merciless critic of Lord Shaftesbury does not come so very far behind this respected nobleman in estimating British insanity. His figures are:—7 per cent. of female lunatics from drink, or 2,240; 21 per
cent. of males, or 6,310; 48 per cent. of idiots, or 23,800. The annual cost of the first class he puts at £56,000; of the second, at £158,000; and of the third, at £590,000; or £804,000 in all.

As regards suicide the writer attributes 15 per cent. to drink, apart altogether from 34 per cent. to insanity, though of insanity he elsewhere, as we have shown already, concedes that 14 per cent. ought to be credited to alcohol.

For this dreadful story of mental suffering, disease and death what remedies does the essayist suggest? Our readers, we fear, will be inclined to think that we are making game of them when we say that he proposes the following five remedial measures:—

the abolition of the duty on coffee; Sunday opening of museums; the prohibition of marriage between cousins; the multiplication of Peabody’s buildings; and less high pressure in education! He declares coffee to be the great foe to intemperance, and has not a word of suggestion as to the spread of total abstinence or the removal of legalised temptations to drinking. Are we not justified in the assertion that “the mountain has been in labour and has brought forth a ridiculous mouse”? Let the people of Great Britain swim in an ocean of coffee! let every place of amusement be open from twelve o’clock on Sunday morning to twelve o’clock on Sunday night! let every inhabitant be banished from his cousins! let every house be a Peabody block! let our schools teach next to nothing! if the liquor traffic be allowed to exist unchecked and the people continue to drink intoxicating liquors, insanity and suicide will persist in our midst. But, with none of these five vaunted cures attempted, let the practice of total abstinence become general and the liquor traffic be prohibited among us, and a marked decrease in the ranks of the insane will, ere the lapse of many years, gladden the heart of every right-thinking man and every patriot in the land.

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The Annual General Meeting of the members of the Association was held in the rooms of the Medical Society of London, Chandos Street, Cavendish Square, on Tuesday, 29th May. The President (Dr. Richardson) occupied the chair.

Dr. J. J. Ridge, the honorary secretary, read the following Annual Report.

In our last report reference was made to the rapid spread of total abstinence principles, and hope was ex-
pressed that the medical profession would be found promoting the cause in the interest of the public. It cannot, however, be said that any very marked difference in the attitude of the profession towards the temperance movement has become apparent during the past year. But, on the other hand, we are not without encouragement. Although in some places where thousands have signed the pledge, the medical men have remained immovable, yet in many others medical men have also been induced to declare for total abstinence. Last summer a list of members of the Association, arranged geographically, was published, by the courtesy of the editors, in the Alliance News, the Temperance Record, and the Good Templars' Watchword, together with a letter from the honorary secretary, requesting all persons aware of other abstaining medical men to send their names to him. As a result of this appeal more than eighty fresh names were reported, and all of these were written to and requested to join the Association. About twenty new members were thus secured, and the Council beg to thank those ladies and gentlemen who were the means of thus helping them. Starting with 264 members last year, the Association now numbers 274, being a net increase of ten. The new members number thirty-two, but, on the other hand, fourteen have been struck off the list, and the deaths of eight members have been reported. These have not all occurred during the past year, but information had in some cases been delayed. The following are the names of those deceased:—Dr. Bannister, of Notting Hill; T. J. E. Brown, Esq., of Penybont; Dr. Crossby, of Sunderland; Dr. Grieve, of Barrow-in-Furness; Dr. Maclachlan, of Newcastle; Dr. Williamson, of Wakefield; Dr. Yeld, of Sunderland, and Dr. Fisher. As to associates, there have been seven newly enrolled, and one has become a member, making a net increase of six, and a total of nineteen. After the business of the last annual general meeting Dr. Richardson dealt with the subject of "the fallacy of employing alcohol during exposure to poisonous emanations." At the August meeting, Dr. Shearer read a paper on "Recent Apologists for the Opium Trade." In November the subject of "Inebriety caused by Mental Injuries," was discussed in an able paper by Dr. Crothers, of America. At the quarterly meeting in February, 1883, Dr. T. Morton read a paper on "The Mortality from Alcohol, with special reference to the recent report of the committee of the Harveian Society on that subject." Besides these papers, a communication was read from Dr. Lowe, of Lynn, on "A Ready Test for Impurity in Water," consisting of glass globes, hermetically sealed, containing a small quantity of Nessler's reagent. Two resolutions were also passed unanimously; one, condemning the non-medical use of opium; the other declaring that grocers' licenses were detrimental to the health of the community and ought to be discontinued. At the last annual meeting of the British Medical Association, the importance of the great subject of intemperance was recognised by the arrangement for a special discussion on "The Public Medicine Aspects of the Alcohol Question." This was ably opened by Dr. Norman Kerr, and the opponents of total abstinence were conspicuous by their silence, no medical man of any authority venturing to contend in favour of the habitual use of alcohol. Indeed, it may be now taken as settled, that there are no facts to prove that alcoholic liquors are necessary or even innocuous to healthy persons. The other notable event in connection with this subject which has occurred during the past year is the presentation of the report of the committee of the Harveian Society, on the mortality caused by alcohol. Of 10,000 deaths reported to that committee it was affirmed that 1,005 were partly caused or accelerated by it, and 397 wholly due to it; or fourteen per cent., in which it had some share, an undue proportion being those of persons engaged in the liquor trade. It was shown that this mortality, if these figures applied to the whole country, would indicate the deaths from alcohol in England and Wales alone to
be 38,971 in one year. The Council, though feeling that the numerous abstaining practitioners, who are now to be found almost everywhere, should rally round them and promote the usefulness of the Association in every possible way, are still very sensible of a growing interest in its work, and look forward hopefully to a more decided change in the attitude of the profession generally to the temperance question in the near future. It is necessary, however, that each individual member should do all he can for the advancement of the cause we all have at heart.

The report of the treasurer was read, as follows:—

**BALANCE SHEET, 1882-3.**

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THOMAS BARLOW, WILLIAM J. CORYN, Auditors.

May 25th, 1883.

Dr. DRYSDALE moved, and Surgeon-General FRANCIS seconded the adoption of the report, which was carried unanimously.

Dr. WILLIAMS proposed, and Dr. DRYSDALE seconded, the adoption of the treasurer’s report, which was agreed to.

Dr. RIDGE proposed a vote of thanks to the auditors, Dr. Barlow and Mr. W. J. Coryn.

Dr. FAIRLESS seconded the motion, which was carried.

The PRESIDENT said that, no other officers having been nominated, according to rule those now acting remained in office. (Cheers.)

**THE DALRYMPLE HOME.**

The following communication was then read from Dr. Norman Kerr:—

“There is a prevalent belief that habitual drunkards cannot be reformed. Those acquainted with the facts, however, know that extended experience in America and in Great Britain has shown that many of these victims of strong drink can be cured. Numerous cases of reformation have been effected by moral and religious effort, but there are large numbers whose brain and nervous system have been so altered by alcoholic indulgence, or who, by heredity or other physical causes rendering them peculiarly susceptible to the narcotic influence of alcohol, may truly be said to be in a diseased condition. Their will-power has become so weakened that the only human hope of their recovery appears to lie in seclusion in some institution, where appropriate remedial treatment may be applied, and where they will be freed from the temptations which in their diseased state they are powerless to resist. The Habitual Drunkards’ Act (1879) was enacted to enable habitual drunkards to surrender their liberty for a period not exceeding twelve months, that they might secure
for themselves the conditions most favourable to a cure. The Act, of which nearly seven years have yet to run, is very defective; the having to confess himself an "habitual drunkard" before two magistrates proving a barrier to applicants for admission to a retreat. But, imperfect as is the Act, the Committee feel that it would be a public scandal and a deep disgrace if this Act were to be allowed to expire without a resolute effort to take the advantage of it, especially as the authoritative record of the cure of a few typical cases might induce the Legislature to renew the Act, make the admission to a retreat less forbidding, and grant more extended powers of compulsory detention. 

With this view, the committee procured the registration of the "Dalyrmple Home for Inebriates" Association, as a philanthropic association limited by guarantee. After examining a great variety of sites, and extreme difficulty in obtaining one of a suitable character, the Committee are happy to be able to state that they have succeeded in acquiring The Cedars, Rickmansworth, a freehold property, for the sum of £3,700. The House contains twenty spacious rooms, has attached to it four and a half acres of charmingly laid out grounds, is beautifully situated on the banks of the Colne, in a secluded situation within a mile of Rickmansworth railway station, and is admirably adapted for the purpose intended. The Committee earnestly appeal for funds to complete the purchase and to furnish the home, for which purpose £5,000 will be required. A member of committee has promised to contribute £500, if nine others will each give a similar contribution, or the amount to be raised in smaller sums."

THE PRECISE ADMINISTRATION OF ALCOHOL IN DISEASE.

The President (Dr. Richardson) then read a paper on the administration of alcohol in disease, dealing with the important subject of manner of administration. Referring to an attack of bronchitis to which he had been subjected in April last, he said that he had been earnestly pressed by a medical friend whom he had long known to subject himself to alcoholic drinks, such as port wine or whisky, or both, as a part of the treatment; but he had resisted the prescription, because no clear reason was assigned for it, and without any such prescription he had made as rapid and as sound a recovery as was possible. The difference of opinion between himself and his friend had led him, Dr. Richardson, to review the subject of the use of alcohol in disease. He now proposed to consider three questions in relation to it.

1. Is it advisable for members of the medical profession to recommend alcoholic beverages in general terms in the treatment of disease as if such beverages were foods and necessaries, and distinct from medicines?

2. Ought alcohol ever to be prescribed medicinally in the form of common alcoholic drink?

3. Ought alcohol ever to be prescribed in disease, or ought it, as some hold, to be excluded altogether from medical practice?

To the first of these questions a distinct negative answer was rendered, Dr. Richardson contends that the plan of prescribing alcohol in a general or loose way was often provocative of immense mischief to the sick; making them think they cannot recover without it, and that, too, when they can never recover while they are taking it; and leading them frequently to find a pretext for frequent and injurious resort to alcohol on the ground that the doctor ordered it. The answer to the second question was equally negative. By a variety of modes of illustration, Dr. Richardson showed that the common alcoholic drinks could never be prescribed with anything approaching to precision. He pointed out that many of these drinks are worthless or injurious artificial mixtures, with the composition of which the busy prescribing practitioner cannot be conversant. He described the adulterations which are present, and indicated that in no two specimens of the same kind of alcoholic drink could the physician
come to any safe conclusion—except by analysis, which of course was impossible as a correcting practice—as to the amount of alcohol that is present in the venous or the spiritual fluid he prescribed. In answer to the third question, Dr. Richardson contended that the only true and precise mode of administering alcohol in disease is to administer it as pure or absolute ethyl alcohol, combined, in measured quantities, with pure water, the doses being regulated so as to produce distinct effects. The effects which would thus be looked for were not those of strength, neither were they those which were to be expected to occur from the taking of food; they were not strictly those which would be defined as due to a stimulant, though that word was often employed to designate the effects. In truth, the prime action of alcohol is that of a relaxant of organic muscular fibre, and its use when it is called for is to produce such relaxation. Alcohol has other properties; it is an antiseptic and styptic, and as such may sometimes render useful service. A considerable part of the paper was devoted to these points of practice, and then some indirect uses of alcohol were explained, one of which caused unusual interest. Dr. Richardson showed that alcohol could be made the vehicle for ammonia in such a manner that ammonia, in combination with chloroform, could be administered by inhalation for the treatment of zymotic fevers. After referring to the action of two other members of the alcohol family, methylitic and butylc alcohol, the author submitted a series of conclusions, the leading one of which was that the study of the action of alcohol in disease ought to be separated altogether from the question of alcoholic drinks, and ought to be brought to the same position as that of other medicinal remedies.

Dr. Drysdale (after a pause) said the subject was so new that he did not wonder no one rose to open the debate. A great deal had been written in textbooks and elsewhere on the subject of therapeutics, but what was said was chiefly remarkable for its vagueness. The merit of this paper was, however, its clear, distinct, and specific teaching. He thought that most present were no great believers in alcohol as health-giving or food-giving, but then came in the importance of alcohol as a therapeutic agent, and that was just the point on which there had been so much dispute. In the Temperance Hospital alcohol was not made use of at all. The experiment carried on there was consequently of a very drastic nature—that of virtually dispensing with alcohol altogether. He personally felt inclined to take sides with Dr. Richardson and say that alcohol was of great service in some cases of disease. He thought the President had established most clearly his point that medical men must not give alcohol in the form of wine, beer, or spirits. These beverages were not scientific combinations, but of different degrees of strength and purity. Hence, if they wished to come to any conclusion at all they must know exactly with what they were experimenting. Dr. Richardson seemed to have been the first who had commenced a strict investigation by giving the one substance—ethyl alcohol. Dr. Drysdale went on to mention several classes of disease in which he had used, amongst other things, rectified spirits, when he had not wished to give alcohol. He had no experience of alcohol as an antiseptic. He fancied that this question would have to be worked out by teetotallers, and it was high time they should commence.

Dr. Heywood Smith was glad to have heard this most valuable paper, and hoped the profession would carefully consider its contents. He had been greatly influenced in the direction of lessening his administration of alcohol by the Cantor lectures of Dr. Richardson, delivered years ago, but there were certain cases in which he deemed alcohol of use, as, for example, typhoid and puerperal fevers; and as to profuse haemorrhage, it had seemed to him that nothing else would save the patient's life. He hoped Dr. Richardson would be induced to publish in some more extended form the
Physiological Reasons for Pathological Effects of Alcohol. 167

observations he had made to-day, in order to give the profession an opportunity of carry out this most desirable experiment.

Dr. Alderson felt inclined to dispute the statement of Dr. Drysdale that this matter would have to be worked out by abstainers, for he thought it should engage the attention of the whole profession. He had recently treated a very severe case of typhoid fever without alcohol, where the recovery was excellent. He found the best diet to be milk, but in his own case, when suffering from night work and neuralgia, a little whisky did him good.

Dr. Ridge expressed his gratitude to the chairman for the excellent paper he had contributed. It enabled one to protest against the medical dogmatism that prevailed upon this point. Again and again they had said to patients, “You will die if you do not take alcohol,” and again and again the living patient had shown the absurdity of the false prediction. Although alcohol, as so carefully indicated, would do all that the chairman described, he (Dr. Ridge) was persuaded that other things would do just as well, if not better. He knew that alcohol again and again got the credit of curing cases with which it had had nothing to do — hemorrhage for example. One of his servants had a most alarming hemorrhage with collapse, and she became absolutely pulseless. After an hour an enormous amount of blood was passed from the bowel. No alcohol was given in this case, but other things, and in the morning he could feel her pulse, and the hemorrhage did not recur.

The President said he had desired to impress upon his hearers that there was only one way to study the action of alcohol, and that was to study the thing itself, and not the mixture of it. He knew a great deal of the action of alcohol, but nothing precise of the action of alcoholic mixtures. Other things might in the circumstances he had named be as good as alcohol, only he did know them.

The proceedings then terminated.

NEW MEMBERS.

Dr. Adams, Bedford. | Dr. Stanley, London.
Dr. Williams, Bala.

Enfield, June, 1883.

J. J. RIDGE, M.D., Hon. Sec.

Miscellaneous Communications.

PHYSIOLOGICAL REASONS FOR THE PATHOLOGICAL EFFECTS OF ALCOHOL.*

By Dr. Alfred Carpenter, J.P.

It is highly important that the scientific facts which belong to and follow upon the daily use of intoxicating liquors should be fully known, so that those who have undertaken the duty of urging Abstinence from alcoholic drinks upon the women of England should have some other foundation than a simple “ipse dixit” upon which to build the arguments employed against their habitual use.
I propose, therefore, to lay before you, in as simple language as can be used when scientific subjects are discussed, the facts which prove that alcohol is not likely to be beneficial to human beings. It cannot be considered, under ordinary circumstances of life, in any way as a food. Its effect, physiologically, is just that which tends to produce in the majority of cases a pathological change in the bodies of those who use it daily.

Perhaps I had better define what I mean by physiological and pathological changes before I proceed to argue the points which bear upon the subject. I propose to use the first term, physiological, as expressing an action which is exerted by alcohol or anything else material or immaterial on living organisms, to express the change produced by a force acting upon and with the living tissues of the body, and those chemical changes, which are the effect of the agent employed, are the result of the action. I limit pathological change to that which is unnatural, so far as it is not a healthy change, and which, in itself, tends to interfere with the natural function of the part of the body under observation, and which lays the foundation for disease as distinguished from those conditions which belong to health. These definitions are more limited than the terms really signify, but it is well to keep before us the meaning which I proposed to attach to the terms, so that there may be no disagreement as to the meaning of our premises when our conclusions have been arrived at.

Physiology may be said to include pathological changes; but I limit, for convenience, my meaning of the term physiological to those actions in and on living tissues which are natural and tend to health. Pathology to those which, if continued, tend to set up unnatural or diseased actions in the body, and ultimately lead to structural or organic changes tending to decay. It may be argued that pathology is physiological. That action, however, which has a pathological tendency cannot be for the direct benefit of the individual if that individual is already in health, and it is to healthy persons that my arguments are in the first instance addressed; especially as regards children and young people, assuming that they have not yet laid the foundation for disease in their bodies.

No doubt the various functions upon which life and health depend are based upon first causes. But those first causes are beyond our ken, and must be taken in faith. I do not propose to consider them at this meeting, but, leaving first causes alone, let us look at the minute structure of those bodily organs, the performance of whose functions are necessary for the maintenance of health and life. We find them made up of excessively minute tubes, very fine fibres, and microscopical cells. The continuance of change in the cells is the basis of action, and upon it the continuance of health and length of life depends. The change is associated with motion, which must be in both directions for correct work. That is, there must be movement into the cell as well as away from it. The change is based upon a chemical action, assisted by physical conditions of the simplest kind. Let us, for instance, examine the cellular tissues which make up the portion called skin. It consists of cells which are membranous, that is a cell which is an envelope enclosing something. This is interspersed with tissue of the finest possible kind. The cells, which are nearly globular in the deepest part, form flattened scales as they come nearer to the surface. There is a change constantly taking place in those cells; the deepest consist of an excessively fine membrane enclosing liquid contents. There are also minute glands, and tubes called sweat ducts, running from those glands and opening upon the surface of the skin, the glands being made up of bundles of cells, each supplied with nutriment by an exceedingly fine network of pervious tubes, which are called capillaries. These capillaries carry the blood from the arteries to the part under observation, and transmit it to the veins; they intervene, therefore,
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between the artery and the veins, are exceedingly minute, and they contain the material which is necessary for the nutrition of the tissues which form the skin, for the maintenance of its integrity, and for its repair if damaged. They interchange their nutritive fluid for the salts which are the result of the chemical action which has taken place in carrying out their duties, and for the removal of other débris. The salts and other débris have been produced in maintaining the animal temperature, and in performing the various attributes of the body. We must bear in mind that no function can be performed without something resulting which has to be taken away, just as in the cell of the battery, which gives us electric power, a salt is produced which must be from time to time removed. The actions which take place in every other organ of the body are similar in character to those which are carried on in the skin. Each has its proper function, and each leaves something to be removed after its attribute has been brought out. The duty of the skin is to protect the sensitive nerves of touch from injury, to enclose all the individual parts in one common covering, and to be a foundation or connecting-tissue for other defensive organs. It requires to be itself protected from the effects of friction and of heat and cold. This protection is afforded by the dried-up cells forming scales, and by the hairs which have a wonderful provision for their maintenance and repair, and also by an oily secretion covering the hairs, and protecting the skin from the direct and immediate influence of friction and cold, whilst friction assists to remove the used-up and now scaly matter, which is no longer wanted in the body, and which has been pushed out by the growth of the cells from below. In general terms, the functions of all glands are similar in effect to those which are found in the skin, viz., for secretion and excretion, maintenance in working order and repair. We find that one organ gets rid, out of the body, of a deadly poison named carbonic acid, which excretion has been formed in keeping up the animal temperature (of which more anon); another organ gets rid of urea, which may become a deadly poison, and also certain used-up salts, which are the sequence of nerve and muscle action; a third disposes of the débris of nerve cells and the used-up parts of the blood corpuscles, which are no longer serviceable. These excretions, in a microscopical point of view, are like to the ashes and clinkers which form in the furnace of a steam engine, and to the lime deposits which are found in the tubes and boilers of the engine itself, because the water which has been used to generate the steam was not pure. If pure water only could be used in steam boilers there would be no fuel similar to that which is often found in the tea kettle, there would never be any kitchen boilers bursting because the supply or waste pipes were choked by deposit. The presence of impure blood leads to similar catastrophes in the human body, because the nutriment fluid is impure, or used-up material is deposited in the wrong place, and is not oxidised at the proper time and in the proper manner. My duty is to show how this impurity is increased by the daily use of alcohol; the impurity has no business to remain there, or if it must be present it should be so infinitesimal as to be of no moment; but I believe that alcohol increases it materially, and keeps it within what may be called, in legal parlance, the curtailage of the dwelling of the living person.

The secretions I have mentioned, or some compounds formed out of their constituent elements, are virulent poisons if they be retained in the economy of the living body.

The expulsion of carbonic acid which it is the duty of the lungs to pass out, cannot be intermitted for any moderate interval of time, say for three or four minutes, without a fatal result ensuing. If only half the normal quantity of the lung excretion, that is, if the amount of carbonic acid gas which is got rid of equals six ounces of carbon instead of twelve ounces per day, which latter is the average and natural amount, a series of disturbances of health arise which
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are very frequently manifest and disagreeable to the individual, but are not recognised as caused by alcohol. In the end disease is set up which will kill sooner or later if its exciting causes remain in situ. These deposits are a part of the basis of all pulmonary diseases. So also if urea is not passed out of the system by the kidneys; it kills by the retention of its constituent elements in the blood; and if only half its normal quantity of 500 grains a day is excreted symptoms of blood poisoning, which are called uremia, may sooner or later supervene, and it is a part of the result which is sure, sooner or later, to arise in nearly all kidney complaints. Defective liver function is more easily and more certainly recognised, as decidedly caused by alcohol; a fact which is agreed to by all pathologists. All these organs, as well as the skin, are made up of millions of cells in immediate connection with the capillaries and excretory tubes. Their functions are similar in effect, and consist in the transmission of an excretion or a used-up material from the blood or other juices of the body to the outside by means of some duct or passage. Each cell involved has a duty to do. It is infinitesimal as regards one cell, but an interference with the work of an aggregate number of cells must sooner or later produce a result of some kind or other. The interference with the function of a few dozen or a few hundreds out of millions which make up the body, including those which are circulating in the blood serum, may not be perceptible to our finite powers, but let a few hundreds be placed hors de combat day by day, whilst their daily repair is also interfered with, and a breakdown is the ultimate result; and yet the cause at work is not recognised; nay, the producer of the evil is often used for the purpose of arresting the change which it is industriously bringing about, because it renders the effect of that change less manifest to the unfortunate victim.

When we divide them according to their severity there are two distinct classes of complaints: 1st, the acute or sudden and rapid form; and, 2nd, the chronic or slow form, though it is sometimes difficult to say which is acute and which is chronic.

The first set of cases arises from some impediment to healthy function in a given organ, as, for instance, in the lung. There is a tendency from some cause or other, to a block, or arrest of circulation in some of the capillaries. Nature resents this arrest, and a state of so-called inflammatory mischief is set up; it arises for the actual purpose of removing the impediment, which may be either in the circulating fluid or in the tubes through which it passes. The patient becomes seriously ill in consequence, and is said to have inflammation of the lungs or some other part of the pulmonary organs. The block in the capillaries has been brought about by an interference with the functions of some part of the lung structure. Either the air cells have failed to pass out the carbonic acid which they ought to get rid of, or the blood-vessels supplying the excretion have become dilated; and do not transmit the blood through them sufficiently rapidly to prevent the migration of white corpuscles (which the blood contains) through their walls, this migration being the second step in the establishment of inflammatory conditions, the first step being delay in the tube. Dilation leads to stagnation, and stagnation sets up other mischiefs. The blood becomes more or less stationary, carbonic acid is not got rid of so rapidly as usual, the red blood discs become sticky and adhere together, whilst the white corpuscles pass out through the sides of the dilated tubes into tissue which is outside the proper channel. Thus there is obstruction in the channel, both inside and out, function is interfered with, or a change which ought to go on fails at the proper moment at which it is wanted, and excretion is retained in the blood. The blood becomes unhealthy, because not sufficiently purified. It circulates again in the system, and has to get on as best it can, or the corpuscles, being foiled in their attempt to travel by the right direction, squeeze through another
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way; perhaps in consequence of the obstruction being moderate in extent, they are only delayed, and are not absolutely prevented from passing; but delay means deposit or arrest of change, and some débris has found its way out of the current into the living membrane of the capillaries, or remains adherent to the membrane which makes up the air cells. The air cells are found to be less elastic, less translucent than they ought to be.

The impediment in capillary is brought about by imperfect cell action as well as by the dilatation of blood-vessels. If the cells do not perfect their proper function and pass out the CO₂ the blood continues impure. The purifying function, which is called endosmose, and exosmose is most certainly interfered with by the action of alcohol upon the membrane which helps to make up the air cell. Thus the use of alcohol tends to two results, each of which must be injurious to health. Its effect upon the capillaries is manifested in the congested conjunctival membrane which lines the white of the eye; in the flushed face and apparently heated skin of the drinker. This effect, so evident in the face, is also produced in all other parts of the body, but its more subtle and therefore more dangerous effect is upon cell action. It is not at once seen and not immediately felt, but it is to this particular influence that I wish especially to draw your attention, viz., the change which it effects upon the physical power of cell growth, and cell function.

We will now go back to the function which the skin has to perform. Look at the diagrams on the wall and they will convey to your mind something of its minute anatomy. The number of glands which open upon the surface of the skin by these ducts, as shown there, are exceedingly numerous. In some parts, as on the palm of the hand, they amount to some thousands in the square inch, perhaps 400 or 500 is the average per superficial square inch on the whole of the body. I do not intend to describe the minute anatomy of the skin to you, except so far as to point out that so-called nucleated cells make up the principal part of the skin, and that by means of those cells the large quantity of liquid which they require for their functions passes into the capillaries and absorbents, and then a portion of it passes out of the body by the sweat glands, the remainder returning by the veins to be purified in the lungs. The true quantity which passes off by the skin has not been ascertained, but it is well known that under excessive exercise it amounts to many pounds in the course of the day. The cutaneous cells are of different kinds, but the majority have a distinct cell-wall, and some have hair-like processes on their walls. As they approach the surface of the skin they get drier, and eventually becoming flattened scales, they are shed in abundance, as any person may see who has worn his flannel shirt for a week, and likes to give it a shake when it is taken off.

The brain substance is made up of cells not very dissimilar, but brain cells do not form scales; when their office has been performed they break up and their débris is removed by absorbents and veins, and they are passed into the vessels by similar processes. The débris is carried mainly to the liver, and is there manufactured into bile. The bile cells make up the mass of the liver, together with capillaries, bile ducts, arteries and veins. The function is an important one. If it be entirely arrested death occurs in a few hours. If a few cells only fail out of the millions contained in the liver, the effect is not manifest, but if there are a few hundred made defective every day various conditions called bilious arise, and health is upset. The same result happens in every organ of the body in one way or another. There is a membrane forming a cell wall, which is in contact with a capillary, or an excretory tube, and has a function to perform based upon a phenomenon called endosmose. This phenomenon is made up of a double property, 1st, It is associated with the attraction which liquids of different densities have for each other; and, 2nd, that this attraction is manifested whenever
there is a porous diaphragm, or an organic membrane dividing a cell into two parts, or the cell enclosing a material having a different density to the fluid which is outside or to that in which it floats. It is seen very easily when liquids of different densities are placed in earthenware vessels having a porous partition separating the two liquids. Thus, if there is alcohol on one side of a diaphragm, and an equal quantity of water on the other, the water flows into the alcohol much more strongly than the alcohol flows into the water, and soon the liquid stands at a considerably higher level in the one as compared with the other; for alcohol forces water to unite with it, attracting it in a way which imitates that of the loadstone for iron. Solutions of gelatine, sugar, and alkaline salts of different densities, have similar effects; and all these materials are found in the blood. The thinner liquid passes into the denser, the heavier fluids are separated from the lighter by porous membranes. The passage may be always seen by the rise of level which takes place in the more powerfully attracting liquid. When the passage is into a closed cell, the latter may be rent by the action set up. When organic membranes are used the effect of the alcohol is to alter the course of events, and in a short time to render the membrane unfit for its purpose, for the alcohol attracts the water, which is a part of the tissue, and alters its power to act in the usual energetic manner by altering its chemical constituents. There is an especial liking in alcohol for membranous tissue; they form combinations not easily overcome, and endosmose is spoilt. The action becomes excessive and sets up an irresistible desire for drink in one class of drunkards in whom it becomes an acknowledged disease. The alteration in the chemical constituents of the material does not take place when porous earthenware is used, neither does it arise when saline solutions or sugar and water are the constituents of the cells; but when alcoholic solutions are used the transmitting power of the membrane is lost sooner or later, according to the strength of the alcoholic solution. It is probable that the effect upon the contents of cells is similar to that which alcohol has upon the material which makes up the membraneous envelope, for if alcohol is brought into contact with fibrine it coagulates it and alters its chemical character. The principle of endosmose is at the base of many of the changes of the body which are requisite for health. 1. These are keeping the body at its natural temperature. 2. Providing for its proper growth and development. 3. Removal of used-up matter, and 4. Repair after injury. As regards the first, viz., that of keeping up the natural heat of the body, this is effected by the union of the carbon with the oxygen, which gas is brought in by the blood corpuscles through the air cells. It is the result of endosmose in those cells. The carbon is contained in the carbohydrates of the food, and those foods which contain the larger portion of available carbohydrates, such as fat and sugar, are the most capable of keeping up the warmth of the body, and most useful for the purpose required. These changes of oxygen into carbonic acid are constantly going on in the capillaries in every tissue of the body, by means of cell action. But when the capillaries are dilated, and the force of the current is diminished, there is a diminution of the rapidity with which the interchange takes place, and which is presently followed by a diminution of the heat which is set free when the union of the oxygen, with carbon occurs. It is certain that in some way or other, either by a direct action upon the capillary itself, or by some interference with the trophic nerves which regulate the nutrition of tissue, or of those nerves which preside over the circulation, the capillaries are dilated by the use of alcohol, and the blood current is not so rapid as usual. Those capillaries which are on the surface of the body rapidly give out the heat which the chemical change has already produced, and in a few hours, if the mischief is not repaired, the thermometer gives indisputable evidence that a drunken man has a lower tempera-
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The fact may be proved in any police cell, in which a so-called dead drunk man has been placed for two or three hours, unless he is the victim of some other disease, which is raising the ordinary temperature of the body. This disease may keep up temperature by an oxidising process which is giving rise to some so-called feverish conditions. If there is a reduction of temperature, a reduction which is never experienced in health, there must be a retention of débris within the circuit of the blood itself, which is inconsistent with perfect health, and cannot be beneficial. There is a retention of unaltered or half-altered carbon which must either be expelled by some other organ than the lungs, or must settle in some other way in the tissues of the drinker. The result is seen in the gorged nose, in the clear eyes, the unhealthy looking skin, and the erysipelas complaints to which this class of persons are especially liable.

How is the reduction of temperature brought about? Simply by the imbibed alcohol having spoilt the endosmotic act of a considerable number of the blood corpuscles, so that the interchange of carbonic acid for pure oxygen has been interfered with. Alcohol has been passing out by the pulmonary membrane, the other virulent poison which ought to be passing regularly away has not been thoroughly expelled, for the two interfere with each other. It has been found by experiment that the amount of carbonic acid which is expelled from the lung of a drunken man is considerably less than the normal quantity which a healthy man gives out, notwithstanding the fact that the heart is beating faster and the pulse is throbbing quicker than in health; but although the pulse is quicker there is no increased excretion, the dilatation of the capillaries has taken off a portion of the work of the heart, and compels it to go faster because there is less elastic and necessary resistance to the current of the blood in the capillaries themselves; ultimately, however, the heart has to do more work in consequence, for it has to send the blood right through the dilated capillaries, and to keep up its pumping power beyond its usual extent, and thus bringing on that fatigue which those accustomed to the irregular use of intoxicating liquor so often experience. The natural tension of the blood vessels is interfered with; that is, it is diminished, and although the heart is relieved of the duty of overcoming that tension, if the tension does not quickly return, there is an increased duty thrown upon the heart, and fatigue is the natural sequence.

There is another action which quickens the pulse and causes the heart to work more rapidly, and which is in strong contrast with alcohol in its effects, viz., exercise. But exercise does not chill the body as alcohol does; it does not arrest oxidation. If a man sits in his chair for an hour, he gets rid of, say, half announce of carbon in the form of carbonic acid in the course of that hour. If he walks four miles in the same time, he passes out of his system at least five times the quantity of carbonic acid which he does when he is at rest; he has taken in five times the quantity of oxygen, which has been, or will be, changed into carbonic acid or some other excretion. With the removal of those excretions, other deleterious débris are passed away by their different emunctories, and the body is relieved of a considerable incubus.

The first effect of exercise is to the unobservant the same as that of alcohol viz., quickening the action of the heart; but whilst the one at the same time gets rid of débris in proper proportion, the other keeps it back and pollutes the system.

Let us compare the effect of these two, alcohol and exercise, upon the skin.

The skin of the drunkard is hot and dry. If you examine the hairs, you will not find them oiled as they ought to be by sebaceous matter. They become brittle, and the skin itself is harsh and scaly, soon becomes diseased, even to the unaided sight. But the skin of a man who takes exercise to such an extent as to quicken circulation, establishes an
action which compensates for the increased rapidity of circulation. There is a perspiration promoted, so that the full capillaries do not tend to fatigue the heart; there is no loss of natural elasticity; tension is kept up in a proper degree; the heart is assisted; the increased pressure is relieved by the removal of the watery parts which carry with them some used-up matter, while the sebaceous glands are supplied with abundance of material which keeps the hairs in good order, and makes them assist to preserve a normal and regular temperature. There are safeguards against alterations which are destroyed in a drunken man, and which must have their commencement in the potions of a temperate drinker.

But it may be replied, Surely you do not mean to liken the ordinary effect of a daily dose of alcoholic liquor to that which is produced in a drunken man?

I answer, Why not? Alcohol is a powerful drug, for both good and evil, similar to that of arsenic. If arsenic is exhibited in minute doses day by day to a person who is in health, it has an accumulative influence, which shows itself by setting up a condition sooner or later of chronic arsenaical poisoning. It is said that there are persons who are able to resist this poisoning influence of arsenic, and to feed upon it. This may, or may not be, but I am not wishful for any in this room to try the experiment. Sooner or later they get to the length of their tether, and poison themselves. The influence of arsenic must begin at once in affecting certain cells in certain organs, and as soon as a sufficient number of those cells have been deprived of their healthy functions by the arsenic seizing upon some part of their organism, disease is manifested in a way which the skilled physician at once detects. He intermits his remedy, for it has exceeded the duty which he expected from it. If the symptoms of poisoning are decided, he does not leave it off by slow degrees, but stops it at once. The point I wish you to study is that the action has to begin upon a single cell, it goes on by aggregating its influence upon many cells, until its effect is manifest to the eye of a skilled observer. Some are more susceptible of the influence than others, and those who are in health more certainly than those who are diseased. There are conditions in which the antagonistic action of arsenic tends to cure the disease for which it is prescribed, but if persevered with beyond a certain point, the remedy will itself produce mischief in the constitution.

So it is possible that there are conditions of disease in which alcohol may be used as a medicine, such as when oxidation is too rapid, or there is a temporary necessity to relieve the heart from the tension which exists in the capillaries; but in health the effect is the same, as I have detailed, as is that of arsenic—viz., interference with cell action. So is its effect in a drunken man; it stays excretion by interfering with healthy interchanges, by interfering with natural endosmosis and exosmosis. First commencing with a few cells, and influencing a few capillaries, its ultimate result is to keep excreta or débris within the circulation, to stay its expulsion from the body, and so prevent that healthy action which is necessary for a proper balance between the performance of the different attributes and faculties of the body and mind, and the removal of the débris which does result from the act of life itself. It interferes with cell action in the lungs of the drunkard as well as in every other organ of the body. Its effect is manifest in the man who is suffering from delirium tremens, which is a disease acknowledged to be the result of alcohol poisoning; we see it every day in the diseases of the liver and kidney, which rapidly manifest themselves in those who are said to exceed the bounds of propriety, but we do not see it in that more temperate use of alcoholic drinks which is indulged in by the moderate drinkers, but just as certainly as arsenic evinces its power by interfering with cell action, and must commence upon a single cell, just as lead in lead poisoning is laid up.
in certain of the organic cells which are parts of the economy of the body, and destroy their functional activity; so the altered débris, which is arrested in its progress, to one or other of the poisonous excretions, and which it is the function of the act of living to form, are kept back in the liver, or the lung, or kidney, or skin, and may pass back again into the blood until it meets with that particular organ for which it has a special attraction, and so a series of diseases arise which are as much produced by alcohol as is delirium tremens itself.

The man who never was drunk in his life, who is a respectable member of society, and yet is a moderate user of alcohol, is nevertheless laying up for himself a quantity of material which ought not to remain in his system, and which is interfering with the healthy performance of some one or more functions. It is sufficient to deprive him of his right to the retention of his faculties in his old age, leading to blocks in the circulation through the affected organs, which bring on disease at disagreeable and inconvenient times. Healthy physiological change is interfered with, and pathological change is established, for I hold that every cell which does not freely interchange the débris which is the result of its ordinary action, and which keeps that débris back, or sends it out only half altered, is commencing a pathological state which is disease. The line between the two conditions is somewhere. I contend that it commences as soon as the interference with cell action is greater than the power of repair, and a very moderate dose of alcohol daily will not be long in most instances before it commences a pathological change somewhere. But it is not only with cell action, as evidenced by altered endosmose that alcohol interferes with nutrition. Its action is shown in its influence upon the gastric juice; it precipitates the peptones which are necessary for digestion, renders them inactive, and deprives the stomach of a portion of its digestive power. It is true that its paralysing influence on the blood-vessels gorges the mucous mem-

brane with more blood, and leads to a fresh secretion of gastric juice, and with it more of the peptones; but surely it cannot be the right course to damage an organ for the purpose of increasing its action. To congest its vessels must be a damage, which, if persevered in, will certainly lead to dyspepsia, and all its concomitants instead of helping the digestive power. It may be right for a special purpose to do this, but to continue to do it is to whip the tired horse too long. But it not only precipitates the peptones of the stomach, but it coagulates the albumen of the food, rendering it less digestible; it alters the fibrine so that the most important ingredients for the production of force are made less capable of assimilation; and yet in spite of these manifest disadvantages alcoholic liquors continue to be used by sensible men, and even by men highly educated in physiological knowledge, but who decline to carry out physiological and pathological facts to their legitimate conclusion. They are only in the same category as a large mass of so-called Christians, they forget the precepts of our faith when they see that those precepts are antagonistic to their worldly interest; or else they have never thought seriously upon the teachings of physiology in connection with the daily use of alcoholic liquors. Just as so-called Christians have never recognised the antagonism of a faith in the Gospel with their daily habits of life. They either do not know or they do not recognise the fact that they are levelling downwards their powers of life, that they are reducing them to a lower capacity for purification, or to a diminished ability to resist evil influences. They say that liquor does them good, and that they feel the better for its use. The very confession that they feel all the better for it shows that there is a fault in their system which is already bearing fruit. To those I would most earnestly say, Face the mischief. The natural tendency which is inherent in the human economy to revert to health should be allowed full sway. Let the defective organ get up to the level of the rest of the body, and do
not bring all down to the level of the weak one.

When a man or woman avers that alcohol is a necessity to them, and that they get on better with it than without it, they are using it for the purpose of extinguishing the danger-signal which nature is exhibiting. This is revealed to them by the feeling which arises when they do not take it. This is a warning that they are damaged already, and that it is high time for them to make an effort to recover themselves. I am satisfied by an experience which has neither been too limited, either by time or numbers, that no possible evil to their bodily health will ever arise from the action, if it be guided by common sense and good judgment.

The human body is not unlike to a great city. There are sewers, furnaces, fires, and water supply; chimneys, roads, and deposits of fuel and food. If the sewers are allowed to choke up, if the ashes are not cleansed, if the chimneys are not swept, if the water supply is fouled, if the depots are not replenished, there is discontent and suffering, want, disorder, and disease. The teeming population of a great city requires that the sanitary arrangements shall be kept in order, the roads open, and the food supply satisfactory, if business is to prosper, and sickness be kept at a low point. It is precisely the same in a single individual. No man can live for a single minute without producing excreta, which, if it be not removed, will choke up his natural sewers, foul his blood-stream, diminish the draught in his furnace of life, and interfere more or less with the activity of every function and every faculty which he possesses. It is possible that the minute particles which make up the sum of excretory product may be sometimes dried up, so to speak, and form very micro-

scopic points lying dormant for years; but when some change takes place, some microcosm is introduced which lives upon these dormant particles; they spring into activity, and it is discovered but too late that the whole structure is permeated with a condition like to that which sometimes we see in an apparently noble forest tree which is suddenly prostrated in a moderate gale of wind, but which reveals to us the fact that its trunk is rotten to the core. The way in which alcohol shows its influence is by diminishing some of the actions which are necessary for the perfection of health. It tends to keep excreta within the precincts of the body, instead of washing them away, just as our forefathers kept them in cesspools close to their dwelling-houses. There is not a point in its daily use which can in any single way obviate the mischief which it produces by its pathological action, unless it be to counteract some diseased state, when its services may be legitimately employed. Just as a dose of castor oil may be beneficial when administered at the proper time, but if one persists in taking castor oil every day for the rest of one's life, it stands to reason that Nature will resent the action, and some day refuse to accept the dose. There will be a natural disgust for the remedy, or some action will be set up which will bring about a change of custom. Not so, unfortunately, with alcohol; it seldom excites a disgust for its renewal, but on the contrary produces a want for more, which can only end in decay and ultimate dissolution. To those who think they feel the better for its use, I say earnestly, Be warned in time, for it will shorten your days on earth and diminish your capacity to enjoy the world, or benefit your fellow-creatures.
PHYSIOLOGICAL ASPECTS OF THE ALCOHOL QUESTION.*

By J. M. Howie, M.B., Liverpool.

I consider that the National Temperance League took a step in the right direction when it turned its attention to the instructors of youth. Legislation can do little towards the abolition of drunkenness until the mass of the people understands more fully the injurious physiological effects of the consumption of alcohol. Our statute-book is merely the repository of the “organised past experience” of society, and although it is quite true that such experience must be recorded in the statute-book ere its legitimate effect on future generations can be guaranteed, yet it is equally true that this experience must affect a large majority of the community ere it can possibly be organised into an Act of Parliament. And seeing that the majority of the people gain all their knowledge during their school days, it is highly important that their teachers should possess clear views on such a pressing question as that now before us, and that they should be strongly impressed with the necessity of inculcating such views in the minds of their pupils. As a proof of the urgent need of such teaching in Liverpool I may quote the case of a certain suburban district, covered by small houses, in the neighbourhood of the Tunnel Road, where it was found, as the result of a house-to-house canvass by the Liverpool Popular Control Association a few years ago, that the majority of the householders were in favour of the establishment of a new public-house among them although the neighbourhood was already overstocked with drinking facilities. In the days of local option such a district would form quite a paradise of Bacchus, unless the knowledge of good and evil be introduced into their midst. And we appeal to you, as teachers of scientific truth, to aid us in dispelling the dark clouds of besotted ignorance which still hang over our densely-populated cities, inhibiting the due exercise of mind and muscle, and preventing thousands of our fellow-citizens from rising to the height of their manhood.

Twenty years ago the advocates of total abstinence had but scant support from the world of science; now, however, it is firmly established that even a very moderate amount of alcohol taken daily would have seriously impaired the strength of Samson himself. And this is doubtless the reason that he was ordained to be a Rechabite from his mother’s womb. We therefore stand upon the firm rock of science when we assert that alcohol is a poison. Like other poisons, it is doubtless useful in debilitated and diseased conditions of the human system; but for healthy men and women it is weakening to the muscles and pernicious to the brain. Some of our temperance friends are urgent in demanding the use of a temperance lesson book in our Board schools, in order to ensure thorough instruction on the alcohol question; but in Liverpool this has been found impracticable, owing to the already overcrowded condition of the book-shelves and of the hours of study.

For my own part I consider that one clear idea in the brain of the schoolmaster is better than a score of textbooks. We fetter our teachers with an endless chain of textbooks until they are powerless to exercise a formative influence upon the minds of their pupils. Let me choose a schoolmaster for my children, and I care not what textbooks he employs; and if we can only convince you that we have the heaviest weight of science on the side of total abstinence, we shall have done more than if a temperance lesson-book had been actually introduced to your schools. On an occasion like the present, however, it is only possible to glance at some of

* Read at a Conference of Liverpool Teachers, convened by the National Temperance League, June 9, 1885.
the salient objections to total abstinence, which may possibly stimulate further inquiry.

First, there seems to be a widespread notion that what is good in sickness cannot possibly be injurious in health; and that as alcohol is found useful in certain diseases it cannot therefore be injurious in the entire absence of disease. Many abstainers hold the opinion that what is good for the sick cannot injure the strong; but they escape from a conclusion in favour of alcohol by denying its usefulness in any condition either of health or disease. Personally, I do not belong to this class. I am convinced that alcohol is beneficial to some of the sick but injurious to all of the healthy, especially in these times of intense nervous strain; and I believe that there are many other remedial agents besides alcohol which are decidedly injurious to the healthy, if habitually made use of. Like carriage-driving, for example, how impossible would it be to convey to the exhausted invalid the fresh air and delightful scenes of the country, which are so eagerly longed for and so urgently required to enable him to regain his former health. But by means of other limbs than his own he is borne day by day into the midst of exhilarating sights and a life-giving atmosphere. A carriage is to him a positive necessity if he is not to pine and die in his monotonous sick chamber. He must not forget, however, that this carriage, which is so useful to him as a stepping-stone, may prove a most serious obstacle in his way to the regaining of the full vigour of manhood. As soon as strength permits he must again trust to his own limbs for ordinary locomotion, otherwise he will never regain that muscular activity which every healthy man ought to possess, and the exercise of which gives such a sense of pleasure and of power. A medical friend, who has lately acquired a carriage for professional purposes, informs me that in a few months it has very seriously impaired his pedestrian ability. A walk, which but a short time ago was mere child's play, he now looks upon as an undertaking of considerable gravity, and if he does not cease to trust habitually to his carriage I venture to predict such failure of muscle and engorgement of liver as will materially interfere with his enjoyment both of duty and of play. My advice to a business youth about to marry is to shun drink, and to avoid omnibuses. The one will destroy his nerves, the other will ruin his muscles. When I see load after load of stalwart young men drugging their brains and pampering their limbs, as they are dreamily carried to business in a cloud of smoke on the top of an omnibus, I begin to understand how it is that nothing but the most exciting speculations and amusements can stir them from their lack-a-daisical preoccupation. Omnibuses are well enough for those whose life is past its meridian, either through years or through weakness, but for the young and strong they are a temptation and a snare.

One great argument in favour of alcohol is founded in the fact that men who consume beer, wine, or spirits, require less food than those who abstain from alcohol; and on this account they assert that alcohol is a true food, and is therefore useful both to the invalid and the healthy. One ardent advocate (the late Dr. Inman, of this city) writes somewhat as follows:—"If I require two slices of meat and bread for my lunch when I abstain from alcohol, while half that quantity is sufficient when I take a glass of beer with it, is that not proof positive that one glass of beer is equal in nutritive value to a slice of bread and meat?"

To my mind this is tantamount to assuming that whatever takes away appetite is necessarily nutritious. According to this doctrine, a pipe of tobacco or a dose of ipecacuanha is amply sufficient for a mid-day meal, and Mr. Squeers was a benefactor to the human race when he showed how completely the desire for food could be overcome by his mysterious combination of sulphur and treacle.

Now in order to enter intelligenty into the discussion of the food action
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of alcohol, we must pursue a line of argument like the following:—

I. What constitutes any substance a food? Does alcohol possess the necessary attributes?

II. Are there no substances of advantage in nutrition other than those properly termed foods? Is alcohol one of these?

III. To what class of agents does alcohol belong, and what is its exact influence upon nutrition?

I. What constitutes any substance a food? We answer, whatever can be used either to build up the body or add energy to it is a true food.

The human body, like the steam-engine, requires two classes of materials for its efficiency. It requires nutritious material by which the machinery is built up, just as the steam-engine is made of iron, brass, &c., and it requires carbonaceous and other material, whose combustion gives motive power just as the steam-engine requires coal and water for purposes of motion. Every nerve and muscle in the body is a vast assemblage of cells, and each cell is filled with explosive material ready to burst on the application of the slightest stimulus, and thereby to liberate its pent-up energy in order to conduct the vital functions for which it is adapted.

The vital processes are thus conducted by a continued series of explosions, and so great is the heat generated by such explosions that unless the human body were mostly composed of water it would go off in smoke, like a bomb-shell, or quickly disappear by spontaneous combustion.

When one end of a nerve is irritated a series of explosions runs along its entire length. If this nerve leads to the brain it excites thought, if to a muscle it excites movement by originating a series of explosions in the brain or in the muscle. Those of you who, as boys, have amused yourselves by setting fire to one end of a long train of gunpowder and watched with delight the glowing force gliding hissingly along its course, will at once appreciate this explanation of nervous communication. When once the cell contents have liberated their energy by explosion, they are henceforth as useless as the washings of a gun or the spent ashes on the hearth, and must be swept out of the body as waste matter to make room for a fresh supply of stored-up energy. It is through the medium of the ever-circulating blood that a continuous supply of such material is brought within reach of every cell in the organism; and it is by means of that same current that the waste matter is carried away which would otherwise as effectually extinguish life as an accumulation of ashes will extinguish the kitchen fire. This waste matter we call poison, because of its power to interfere with vitality.

I may mention, in passing, that it is among this waste matter that alcohol is found in the body of every man, be he the most ardent teetotaler or the most ardent spirit-drinker in these realms. Alcohol is the ashes which remain after the explosion of sugar in the body, and, like all other ashes, it is rapidly thrown out of the system.

We are sometimes told that alcohol must be a food because it is found in the body. We might as well be told that spent ashes are good fuel because they are found in the fire.

Now, it is not maintained by any scientific authority that alcohol either assists in building up the tissues or in supplying them with explosive material; but such authorities do assert that it is useful in nutrition in some other way, and this leads us to our second consideration.

II. Are there no substances of advantage in nutrition other than those properly termed foods? We answer that there are—just as the engine-driver cannot attain express speed without a liberal use of the poker, so the human machine cannot be kept in healthy activity without the administration of stimuli. Observe, I do not say stimulants, because that word has been corrupted, and now refers to a class of compounds which ought properly to be termed alcoholic narcotics. Alcohol is almost entirely used for its narcotic properties, and where thus used cannot be admitted under the head of a stimulus. A stimulus is an agent which makes life more active,
although it adds no energy whatever to the system; just as the poker will make the fire burn brighter, although it adds no heat or brightness of its own.

Stimuli may be applied externally or administered internally, and the more stimulus the body encounters among its surroundings the less does it require mixed with its food. The man who takes a cold bath every morning before going to business does not require strong coffee to goad his nervous system to its daily toil. Those who have abundant open-air exercise may live entirely on vegetable diet, which contains but little stimulus; while those whose life is monotonous and sedentary require a more stimulating diet. But the healthiest stimulus is unquestionably the external. Open-air exercise, cold bathing, and pleasurable mental excitement, will give sounder and better stimulation than the most savoury of diet. Internal stimuli must only be resorted to when the external cannot be secured. There is one criterion by which you can always distinguish whether or not any agent is a stimulus, viz., by its power to increase the demand for food. The more you employ your poker the more coal you burn; and just as you can extinguish your fire by a too-vigorous application of the poker and without adding fresh supplies of coal, so you may extinguish life by using too much stimulus without giving at the same time an increased supply of food. For example, if you feed a dog entirely on Liebig’s extract of meat, which contains the stimulating properties of beef without much of the nutrient property, it will not live so long as if you fed it upon water alone.

This proves that the extract of meat is a true stimulus, and that it induces a greater necessity for food; it is thus useful for invalids with failing appetite, provided that true food be given at the same time. Now alcohol is not a true food, neither is it a stimulus as ordinarily taken, for it rather diminishes the desire for food. Indeed, the boast of its advocates is that it enables a man to do with less food, and even to do without food altogether for considerable periods.

III. How then does alcohol affect the animal tissues? It is not equivalent to the coal of the fire, nor to the poker—where, then, can we find an analogous agent? Alcohol has the same effect upon the nerve-cells that water has upon a coal fire. Apply water in small quantity and your fire will burn more slowly; apply a large enough bucketful, and it will cease to exist. When the cook rakes up the ashes and covers her fire before going to bed, she performs the same physical experiment as her master who soothes his nerves with alcohol before retiring for the night. The cook wishes her fire to smoulder during the night. She therefore applies an agent which will check combustion by partially excluding oxygen from her fuel; her master applies to his nervous system an agent which diminishes oxidation, and thus seriously interferes with vital action. In both cases there will be less material burned—less coal and less explosive food.

But is this a real advantage to the usefulness of the fire or of the human machine? The cook would be very late with breakfast if she trusted to such a fire to cook the bacon, and the work accomplished by a brain much affected by alcohol is both small in quantity and inferior in quality. It is as difficult to send proper messages along a nerve under the influence of alcohol as it is to fire a train of damp gunpowder. “Trust in God and keep your powder dry,” said the great Oliver Cromwell. Trust in God and keep your brain clear would have been his burning advice had he lived in these latter days.

In the present day we can calculate with precision the exact time, to a minute fraction of a second, which is required to transmit a message from the brain to the hand or any other portion of the body, and it has been distinctly shown that it takes much longer to send such a message after the person experimented upon has taken even a small dose of a narcotic. A message which could be sent in 0’1904
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of a second required 0.2070 seconds for its performance after two glasses of hock had been administered to the subject of experiment, thus showing how much even a slight narcotic effect interferes with the vital action of nervous tissue.

Alcohol prevents waste of tissue, and thus enables a man who drinks to live on less food. This is considered a very strong argument in favour of drinking, and if good food could not be obtained it might have very great force; but plain wholesome diet is cheap, and easily procured. Moreover, "waste of tissue" is an expression which conveys an utterly false impression. There is no such thing as waste of tissue unless the body is wearing away more rapidly than new substance can be reproduced, as in certain fevers, consumption, &c. The tissues of the body are not a fixed quantity like the framework of a steam-engine; they are ever changing—the old wearing away to be replaced by the new. Life is a constant series of changes, and the healthier the man the more rapid, within certain limits, will be his change of tissue. You can only preserve the tissue of a healthy man by lowering his vitality; the tissues thus preserved cannot bear the strain which can be borne by those of recent manufacture, and thus the working power is diminished.

An employer of labour in Liverpool, anxious for the elevation of his workmen, suggested that they might with advantage give up the use of beer and tobacco. They, however, informed him that in such a contingency their wages would not support them, so great would be their increase of appetite. But there is another side to this question, and it is that such men would be able to do more work, and consequently earn larger wages, by discontinuing the narcotics. Men of all classes are very slow to learn that sound bodily health is the best possible investment. The human machine is very easily kept in order, but once let it get out of repair and it is the most difficult to set right. And it can only be kept in thorough repair when every joint, muscle, and nerve is maintained in a condition of persistent activity. I do not mean that a man should always be engaged in exercising his various tissues and organs in order to preserve health; but I do maintain that every tissue should be so actively exercised that it will be compelled to employ its entire time of so-called rest in laying up fresh stores of explosive material, and in healing up those rents which have taken place in their actual substance. In the region of nerve and muscle a man ought always to live up to his income. He can save nothing by sparing exertion so long as he does not go beyond his income. Give your brain sufficient food and an abundant supply of oxygen, and thus give it a fair amount of good hard work every day if you wish to maintain it in a high state of healthy activity. Barristers and clergymen, who use their brains much, are the longest-lived men in the country; showing plainly that regular brain work is good for the general health as well as for the efficiency of the nervous system in particular. The muscular system must be treated in a similar manner if you do not wish it to become subject to fatty degeneration. An unused muscle shrinks and becomes soft and flabby, presenting an appearance of marked contrast to the brawny arm of the blacksmith. Instances of the feebleness of tissues thus preserved frequently present themselves to the notice of the surgeon. A muscle is called upon to perform a vigorous contraction, but it snaps in the effort. The heart itself is sometimes torn asunder in attempting to send an extra supply of blood to some needy limb. No man can afford to lower his general vitality for the sake of mere idle gratification. He never knows when he may require all the energy which can be stored up in his tissues. A railway accident, a runaway horse, a run to catch a train, a fall on the ice, or even a fit of coughing, may bring a life of misery or an early death to one who would have passed unscathed through them all had he allowed his nerves and muscles to wear away in vigorous activity, instead of carefully preserving them, like anatomical specimens, in
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spirits of wine. I do not attempt to deny that all narcotics possess the power to prolong life in the absence of food. I have elsewhere referred to the case of an old woman who lived for two years on opium and gin-and-water, without any food whatever, but she might as well have been in her grave. Hers was, I would not say a living death, but rather a dead life. Some may be inclined to doubt the accuracy of this story, but such will discern a possibility of its truth when I say that a narcotic seems to produce a condition of the nervous system closely resembling that of hibernating animals. The dormouse sleeps for many weeks without any food whatever.

Its tissues are then in the condition of the cook's fire when covered with ashes, and if you can produce a similar condition in human tissues you may attain the same result of prolonged fasting. We are apt to consider the winter sleep of the dormouse as a great waste of existence; but what can we think of a reasonable man who artificially reduces himself to a similar condition during a considerable portion of the prime of life?

Alcohol soothes the exhausted and irritable nervous system after a hard day's work, and prevents the brain worrying about difficulties that may never come. The advocates of alcohol maintain that in this manner it gives rest to the nervous system, and thus enables it to throw off work for the time, and resume it again with renewed energy.

Now, the mistake which our opponents make here is that they ignore the necessity for anything but rest. What would you think of the farmer who allowed his men an hour's rest at various intervals during the day, but who, at the same time, forbade them to take food at such times, lest the muscular movements involved in carving and mastication should interfere with their complete and absolute repose? Every cell in the body is a counterpart of the whole organism. Just as the man cannot work without eating, so the cell cannot carry on its explosive action without fresh supplies of explosive material. Now alcohol and other narcotics not only prevent the nervous matter exhibiting energy, they also prevent it absorbing its proper food, so that the rest which it obtains by means of narcotism does not enable it to resume work with renewed energy. But more, the nervous matter is thereby rendered incapable of throwing off its own ashes, which are its most deadly poison. Just as decomposing animal matter is highly deleterious to the health of the body, so the dead portions of nervous tissue become disastrous to the life and activity of their living successors.

I do not attempt to deny that the relief afforded by a narcotic is most delightful and seductive. When the merchant goes home from his office, worried by a thousand trifles, and saddled with a load of cares, his nerves are agitated and restless, and the busy wheels of life seem to speed round with unceasing velocity. How delightful it is to be able, by the magic spell of alcohol, to stop those busy wheels and to translate himself from the pains of a commercial pandemonium into the Elysian fields of perfect bliss. I confess that alcohol does all in the way of soothing that its admirers attest; it is my duty, however, to exhibit the other side of the shield, and to proclaim that the luxurious pleasure of the bottle is physiologically so expensive that the nervous system cannot afford to indulge in it. The muscles suffer along with the nerves; for without nervous influence the muscles are unable to supply themselves with the nourishment which is carried by the blood into their very substance. If you cut the nerves leading to a muscle, that muscle will cease to retain its firmness and contractive vigour; and if you paralyse the same nerves by a narcotic, its power of contraction will be similarly diminished.

Any spirit drinker will tell you that it requires no very large amount of his favourite beverage to incapacitate him for severe muscular exertion. When a man has indulged
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By Andrew Clark, M.D., Senior Physician to the London Hospital.

In his Presidential Address to the members of the Clinical Society of London, Dr. Andrew Clark said: Of all the defects in the work of the Society, the one which I consider to be at once the most important and the most inexplicable is the seemingly studied disregard, in the treatment of a patient's malady, of those minute conditions of his daily life which

in alcohol to any but the smallest extent, you are more likely to find him dreaming in a corner than ascending a mountain. When you observe what an amount of lounging lethargy is produced by drinking, you scarcely require an ounce of science to account for the smaller appetite of the worshippers of Bacchus.

This power of the narcotic to interfere with the nutrition of the tissues produces serious consequences on the digestive organs of those who both drink much and eat well. The wine-bibber is often not content to suffer any diminution of the more solid pleasures of the table as a result of his glass. He therefore resorts to various means to induce in his digestive organs an artificial appetite. He is thus led to consume a much larger amount of nutritive material than can possibly be required by narcotised tissues. This nutritive material produces injury either to the stomach or liver, very frequently to both. The stomach is burdened with more work than a drinker's stomach can perform, hence the dyspepsia so frequently accompanying the bottle. The liver is doubly burdened. Its duties in connection with the food are many. It assists to prepare nutriment for nerve and muscle, and if such nutriment is not required its further duty is to break down such rejected nourishment in order that it may be the more easily expelled from the system. The results of an overworked liver are apparent in the gout and biliousness so frequently following the regular indulgence in port and other wines.

*Alcohol destroys the physical conscience.* My greatest objection as a physician to the use of alcohol is that it destroys what I have ventured to call the physical conscience.

The entire body is supplied with minute nerve twigs, which in the healthy man are maintained in a highly sensitive condition. Their function is to inform the brain when any derangement has taken place in the ultimate tissues. This network of nerves occupies a similar position in relation to health that the conscience does in relation to the moral condition. Whenever any muscle has any difficulty in contracting, a message of the fault is at once transmitted to the brain. The same occurrence takes place when the stomach has difficulty in digesting its contents, when the liver is overburdened with excess of sugar or bile, and when the brain is being overtaxed with daily toil. These messages produce great uneasiness to the subject of their influences, just as a troubled conscience does in the mind of its possessor. Now, there are two ways of avoiding the inconvenience of the physical conscience, just as there are two ways of avoiding the pangs of a similar moral conscience. You may either do what is right, or you may lull your conscience to sleep. Alcohol enables a man to deaden his physical conscience, and thus he may go on ruining his health without knowing it until he is beyond all hope of recovery.

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**MANAGEMENT OF MORE MOMENT THAN MEDICINE.**

*By Andrew Clark, M.D., Senior Physician to the London Hospital.*

In his Presidential Address to the members of the Clinical Society of London, Dr. Andrew Clark said: Of all the defects in the work of the Society, the one which I consider to
practically make and unmake health, so that—special management being almost nothing, and special medication almost everything—it would seem as if physiological principles were of no account in therapeutics. But a more critical study of disease will soon convince us that this inference is unsound and its application incorrect. Putting aside, for the moment, inherited affections and parasitic maladies of whatsoever sort, I shall assume that chronic disease—a state of parts, and not a thing interposed between them—is the eventual outcome of continued violation, conscious or unconscious, of physiological laws as they exist for the race, or as they are conditioned by the peculiarities of the individual organism. I shall further assume that those violations are not exceptional and gross, but daily and minute; and that their effects, infinitesimal from day to day, become visible only after longer periods of time, and so escape recognition except by those who are trained to discern the casual connections of subtle things. And I shall furthermore assume that the organism, in virtue of the inherent forces maintaining its solidarity, tends to repair existing and to repulse threatened disorders, and that, when placed in favourable, and liberated from unfavourable, physiological conditions, this tendency issues and ends in successful action.

And now let us take for illustration a case of primitive uncomplicated gastric catarrh. Assuredly it does not come without a cause, and it is not introduced from without, but begotten within. It is, in fact, engendered out of a more or less prolonged, and perhaps petty, violation of the laws of stomach-digestion, and it is maintained by conditions which, although apparently too trivial to be worthy of notice, are yet sufficient to hinder the formation of healthy peptones, and to traverse the reparative powers of the organism. What is ordinarily done in such a case? The patient is told in a vague sort of way to have a light and nourishing diet, to take daily exercise, to avoid anxiety and over-

work, and to try bismuth and alkalies with an occasional alterative aperient.

Now, speaking, if I may be permitted to do so, from my own experience, it is certain that in such a case management is of more moment than medicine, and that without a rigid, and even minute, obedience to the physiological conditions of healthy digestion, the chances are small of a speedy and permanent recovery from the gastric catarrh.

But the instruction of "a light and nourishing diet" admits of the widest diversity of interpretation, and, with the most loyal desire for literal obedience, the patient, according to his age, habits, and station in life, may be unwittingly guilty of doings the most conflicting and injurious. He may eat too often or too seldom; his food may be fresh or preserved, too highly seasoned or too insipid, too concentrated or too bulky. He may take too much liquid or too little, too often or too seldom, too hot or too cold, effervescent or still. And without a conscious, but yet real and great, departure from the intention of his instructions, he may frequently refresh himself with cups of tea and coffee, and make glad his heart by incidental glasses of wine or of beer.

Now, there is a right way and a wrong way in the management of every such case, and, although they lie so near together, and are so much alike that the distinction between them is not easy of discernment, it is necessary that the distinction shall be made. For it is upon a correct giving or not giving, a correct and minute attention to the physiological conditions affecting the quantity, quality, and character of the solid and liquid food, the times and circumstances of eating and drinking, the amount of exercise, work, and sleep, and the adequate discharge of the excrementitious functions, that our work will succeed or fail, that our case will turn for evil or for good, and that the patient will either recover his health or drift into permanent valetudinarianism.

If time permitted, and the occasion
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would justify it, I could easily produce, from the records of our common experience in every department of medicine, illustrations the most various and conclusive of the peril of neglecting and the profit of following minute physiological considerations in the treatment of disease. On this occasion I shall content myself with one.

Some eight years ago I was summoned to a consultation in South Kensington, where, in presence of the patient and his family, I met Dr. Andrew Stephen and Dr. Taylor. It appeared that the subject of our consultation having been ill for many weeks, and growing rapidly worse, had been brought from Wales to London for further advice, and that the advice given was opposed to the feelings and convictions of the patient and his friends. The family, therefore, refused, without the help of another opinion, to carry out the proposed treatment; and accordingly, with the acquiescence of the doctors, I was summoned to examine the patient, and to state my views without previous consultation with my colleagues, but in their presence.

The patient—a tall, stout man of about sixty, with flushed face, suffused eyes, anxious countenance, and swollen legs—sat, leaning forward in an armchair, partially undressed, breathing laboriously, and apparently in much distress. He complained of shortness of breath and palpitation; of confused sensations in his head, and occasional dizziness; of general weakness, and of indescribable depression.

The patient had a loaded tongue, with fetid breath; and, although troubled with nausea, was able to take freely of food and drink. The abdomen was distended, and the liver distinctly enlarged. There were frequent discharges of fetid gases from the bowels. The faeces, discharged twice or thrice daily, were dark, offensive, and unformed. The urine was scanty, pale, faintly acid, of the density of 1010, and slightly albuminous. The heart was large, flabby, murmurish, frequent, quick and irregular in time and force. The pulse was small, thready, irregular, and beating over a hundred times in a minute. The legs were edematous, bluish-red, and cold. The cervical veins remained continuously distended. Both lungs were congested at their bases; and there was frequent cough with frothy and sometimes sanguinolent expectoration. Nothing worthy of note was discovered in the nervous system.

Inquiring now as to the treatment which was being pursued, I was told that, in the opinion of all who knew him, and of all the doctors, except the last, who had been consulted about him, the patient was a man of a naturally delicate constitution, that he needed constant keeping up, and that his chances of life were in direct proportion to the amount of support that he could take. Accordingly, he was taking food and wine every second hour, had iron, quinine, and strychnia, three times daily, and, being increasingly thirsty, he drank milk and soda-water without much regard to frequency or amount.

Questioned as to my opinion of the patient's malady, and urged by my colleagues to say exactly what I thought, I replied that he was a man with deteriorated, but not seriously diseased, tissues and organs, and that he was in peril of death, not so much from his malady as from the means used for its cure; that he was being poisoned by food and wine; that he was in the condition of a fire having more coals put upon it than it could burn, and that, his chimneys being choked, he was in near danger of being suffocated with his own smoke.

My colleagues agreeing with this view of the case, and the patient, after much discussion and explanation, assenting, he was placed upon a precise and severe regimen. He was ordered to have four simple nursery sort of meals in the course of the day; to have an ounce of brandy diluted with eight parts of water at dinner and supper; to be restricted to two pints of liquid in the course of the twenty-four hours; to take nothing of any sort between meals; and, as soon as he was able,
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to move about the rooms in which he dwelt.

In the way of drugs, he was directed to take, for a week or longer, a grain of calomel at night, followed by a saline aperient on waking in the morning, and to have twice or thrice daily, two hours after food, infusion of gentian with bicarbonate of potash, iodide of potassium, tincture of digitalis and aromatic spirits of ammonia.

For the first three days the patient was no better for this treatment. It tried him severely through the restriction of his liquids, and, declaring himself worse for it, he threatened to discontinue it, and to return to his former ways. But on the fifth day he began to improve, and then, his confidence being gained, there was no further difficulty in continuing the treatment, which, when digestion improved, was added to by the administration of reduced iron with meals.

At the end of three months the patient declared that he was well; and all that could be said against him was that he had a weakish heart; that he was breathless upon exertion, that he had rather inadequate kidneys, and that, to maintain his sense of well-being, he was compelled to live by rule. This rule was a midday dinner, with an ounce of brandy in half a pint of water; a moderate breakfast and tea, with eggs or poultry or fish; extreme moderation in the use of fluids; tepid sponging, warm clothing, gentle exercise, and early hours.

Within a year I heard of the patient being in fair health, and managing his ironworks in Wales. What I have since heard of him from time to time is instructive. Occasionally losing his faith, or lacking strength to follow his rules, he returns to the freedoms for which he longs; frequents society, dines late, rejoices again in his wine, and has all his heart's desire. For a time all goes merrily and well, and he breaks sarcastic jokes over the heads of his physicians. But sooner or later this seeming well-being ceases, and his troubles reappear. The urine diminishes in density and becomes albuminous; the heart loses its strength and regularity; the breathing is oppressed; the nights are sleepless and the days depressed; till at last, after much suffering, his obstinacy is conquered, and, convinced and humbled and penitent, he returns to his obedience, and again recovers his health.

Such cases are common enough, and my experience forbids me to doubt that in fevers and inflammations, in haemorrhages and acute diseases of every sort, the issue of particular cases turns, oftener than we are perhaps ready to admit, upon an adequate understanding of the physiological principles applicable to the removal of the conditions imperilling life, and upon the resolution and patience, the minuteness and fidelity, with which they are enforced.

And such considerations are true and important not only in diseases jeopardising life, but also in common disorders, which, although devoid of serious peril, invade our comfort, hinder our work, and dull our joys in life. I do not forget that through hereditary influences, and unsuitable but inevitable environments, many persons are doomed to be constantly ailing without being ever really ill; that their normal state is one of suffering; that no physiological readjustments and no specific medication can give to them the pleasant sense of health; and that attempts to effect what is impossible issue only in greater suffering or in disaster. But, making full allowance for such cases, there remain countless numbers who suffer, through whom society suffers and the world is defrauded of service and knowledge, numbers who are yet willing and eager to make every sacrifice necessary to recovery, and who are left to continue in suffering because the physiological principles and compensations applicable to their relief are derided, disregarded, or denied.
ALCOHOL IN RELATION TO RENAL CALCULI AND GRAVEL.*

By Alfred Barin Garrod, M.D., F.R.C.P., F.R.S., &c.,
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I must devote a few minutes to the discussion of a most important subject, viz., the influence of different alcoholic beverages on the production of uric gravel and renal calculi. We must remember that all such beverages contain alcohol united with different proportions of water; some contain sugar, together with colouring and so-called extractive matters, also salts of potash and lime, united with vegetable or mineral acids. Many wines, also, contain a certain amount of some free organic acid. It is necessary to investigate the influence of the most important of the constituents of these beverages upon the urinary secretion, and first let us take alcohol itself.

1. Alcohol.—According to the experiments of Böcker and Hammond, the uric acid appeared to be slightly increased in quantity by the taking of alcohol, and even this is matter of doubt, and, on the whole, its influence on the production of that principle may be regarded as inconsiderable, nor is there any reason to suppose that it sensibly affects the acidity of the urine.

2. Distilled Spirits.—In the various distilled spirits, as brandy, rum, gin, and whisky, there are found very small quantities of different ethers and essential oils, which, doubtless, modify to some extent the action of the alcohol on the different functions, but cause no essential alteration in the constitution of the urine.

3. Wines.—The various kinds of wines, although they possess one character in common, viz., the presence of enanthic ether, still differ from each other in many important particulars, so that, to ascertain their properties and their influence upon the production of calculus and gout, we must group them into at least two classes.

In the first division we have the natural light wines, in which the alcohol is small in quantity, not more than 10 per cent., and in which the fermentation has been allowed to proceed till the whole of the sugar has become destroyed. These wines are rich also in acid tartrates, and in racemates.

In the second division we may place the Peninsular wines of Spain and Portugal, the wines of Sicily and Madeira, and Champagnes and the other sparkling wines. These all contain a considerable quantity of sugar, owing to the arrest of fermentation which has been induced by the addition of distilled spirit, for it must be remembered that the process of fermentation is stopped when 12 per cent. of alcohol is developed. In this class of wines there is a marked absence of the vegetable salts, which become insoluble on the addition of spirits, forming the well-known crust deposited on wine casks, which is known in commerce under the name of argol.

Besides these two divisions, there are many wines which are more or less of an intermediate character; some, in their properties, approaching to our first, others to our second group.

In each class of wines we also find some which are white and some which are red, the difference depending on the presence or absence of the colouring matter derived from the inner surface of the grape-coat. In many of the inferior wines there also exists much free acid, arising from the setting-in of the acetic acid.

The question now arises, have we any facts with regard to the special effects of different wines in the diseases which we are now considering? I think we have many, and much information which we can use to guide us in the prevention of such diseases.

* From a Lecture delivered at the Royal College of Physicians.
With regard to gout, our knowledge under this head is considerable, and this may serve as a pretty accurate guide in the case of calculus, seeing how close is the connection between that disease and gout, though I must not for a moment be supposed to say that all the causes which lead to the one form of disease must necessarily produce the other.

It may, as I believe, be confidently asserted, with respect to gout, that, with an absence of alcohol in any shape, coupled with an absence of hereditary predisposition derived from alcohol-drinking ancestors, the disease would be practically unknown; and that Noah, in planting his vineyard and drinking the wine thereof, laid the foundations of much misery for his descendants.

It is most essential to separate the different kinds of alcoholic beverages from each other in estimating their tendency to produce disease. Thus alcohol, in the form of distilled spirits, although, when taken in excess, it causes serious mischief, injuring the liver, kidneys, heart, and other organs, still has little or no power of producing the uric acid diathesis, or, at any rate, the gouty development of it. In spirit-drinking countries, or among spirit-drinking families, gout is unknown. Look at Scotland, and its whisky-drinking classes — and they are said not to be too sparing in their potations — the disease is practically absent; hardly ever seen in the hospitals. Look at Poland, where they drink a kind of arrack; the same holds good. A physician from Warsaw, to whom I was once showing some cases of gout in my hospital wards, said that he was peculiarly interested in them, as it was the first time he had ever seen examples of this disease; and, in connection with this, I may mention that, not only does spirit by itself fail to cause gout, but the combination of spirit and sugar is harmless in that direction; for toddy, I am told, is usually a sweet beverage.

When, however, we investigate the influence of wines, we shall find a different result. Drinkers of the common light wines, such as the red Bordeaues and the Rhine wines, suffer but little; while, among the same nations, those who indulge freely in beer, as do the inhabitants of Berlin and Munich, for example, are by no means free from evil results to their health.

Experience shows, with respect to the influence of the different kinds of wines, that the natural light wines, in which the alcohol is small in amount, while there is an almost complete absence of unfermented matter, which contain also a considerable quantity of acid vegetable salts, are little liable either to produce gout, or to lead to the formation of calculus or gravel.

On the other hand, the Peninsular wines, and those which resemble them, which are stronger in alcohol, contain much unfermented matter, and are almost devoid of the vegetable salts, have great gout-producing power, and, at the same time, lead readily to a condition of urine favourable to the production of gravel and calculus.

4. Malt Liquors — Ale, Beer, Stout, and Porter. — We come, lastly, to the malt liquors — ale, beer, stout, and porter. In the manufacture of all of these, the fermentation is arrested at a particular period, so as to leave what is called a "body"; in that they are but partially fermented, they resemble, therefore, the Peninsular wines. Now, from my own experience, and I believe it is also the experience of all who have attended to the subject, I can confidently assert that these beverages have a great tendency to produce the uric acid diathesis. Compare the hospitals of Edinburgh and Glasgow with those of London. In the former gout is scarcely known; in the latter, the disease is common; the difference, as I believe, being chiefly due to the different beverages drunk by the working classes of the two countries; it is, in fact, the difference between whisky and malt liquors.

It has been shown, therefore, that alcohol, in the form of distilled spirit, although it is capable of producing the greatest mischief, does not cause
calculus or gout, and that the lighter and more fully fermented wines are comparatively free from such power for harm; while, on the other hand, the imperfectly fermented wines, such as port, sherry, madeira, marsala, and champagne, as well as all malt liquors, are most prone to induce the different forms of disease which are the manifestations of the uric acid diathesis. It is now necessary that we should at least endeavour to ascertain what principle or principles, present in some of these alcoholic beverages, absent from others, lead to the development of this diathesis, or aggravate it when it is already manifested, owing to hereditary or other causes.

It cannot be the alcohol alone. This, I believe, can be fully and satisfactorily proved, seeing that large groups of people whose custom is to drink freely of distilled spirits are yet free; instances are to hand in Scotland, Sweden and Norway, and Poland. It cannot be the sugar alone; for, although the partially fermented wines and malt liquors contain sugar, yet sugar, added to distilled spirits, does not appear to produce the uric acid diathesis. It cannot be the acidity alone, for the wines which are most harmless, are quite as acid, or even more so, than malt liquors and the Peninsular wines, and many people, who strongly object to the least acidity in wines, will, nevertheless, often take lemon-juice to an extravagant extent.

If, then, neither the alcohol, nor the sugar, nor the acidity, by itself is the cause of certain beverages proving so injurious, is it a combination of any of these that does the harm? We already know that the combination of alcohol with sugar, and that of alcohol with acid salts, are innocuous as far as the uric acid diathesis is concerned. What, then, is there left for us to fall back upon in explanation of the peculiar properties which some of these beverages possess, while others are devoid of them? The only conclusion that I can arrive at, with my present knowledge—and it is the result of much thought during many years—is that it is something which is a result of imperfect fermentation, and you will find that it is those beverages in which fermentation has commenced, and has been allowed to proceed to a certain extent and has then been checked, which, of a certainty, cause gout, and, probably, lead also to the production of gravel and calculus. If I am asked to state more exactly what this principle is, I cannot do so; it may be an influence only, a condition of matter, a ferment. At present it is a mystery to me.

In connection with this subject, however, I must return for a moment to that of sugar, which I told you had, as I thought, been regarded askance without due cause.

I would say that I do not, for a moment, classify with sugar either sweetened fruits or vegetables; for I am quite sure that such articles of diet will frequently produce heartburn and other dyspeptic annoyances in individuals who are not in the least inconvenienced by sugar itself. I cannot help thinking that these contain a something which is not simple sugar, but a substance which is the result of the long contact of the sugar with the fruit or vegetable juices—a kind of semi-fermented matter; in fact, that same something which exists in the stronger wines and the various malt liquors. Of this I feel confident, that in many cases where sugar, whether by itself, or in tea, coffee, or light puddings, does not disagree, and where fresh fruit, although sweet, produces no discomfort, the combination of sugar with these juices, if time has been given for them to act upon each other, will often cause well-marked dyspeptic symptoms.

But it may be said: If so, a ripe orange cannot be a good thing to eat, as it contains both sugar and acid juice, and these substances have been in contact with each other for a long time. I answer: Not necessarily so. So long as the orange exists as a fruit, with its botanical structure intact, so long there may be no change taking place between the different constituents. We have a striking analogy to this in the case of the bitter almond. When whole, this seed contains the
crystalline amygdaline and an albu-
minous ferment. Separate one of these
from the other, and each, by itself, is
innocuous; crush and moisten the
almond, prussic acid is immediately
formed, and the union of the two prin-
ciples is the production of a deadly
poison.

NOTE ON DR. RICHARDSON’S REMARKS ON THE PRECISE
ADMINISTRATION OF ALCOHOL.

By John Moir, L.R.C.P. Ed., &c.

Having had the privilege of listen-
ing to Dr. Richardson on the above
subject at the meeting of the Medical
Temperance Association on May 29th,
I can thoroughly endorse the state-
ments made by him and other
speakers, although time did not per-
mit my saying anything on the subject
at the meeting. In 1876 or 1877, I in-
troduced the same topic at a meeting
in Bath of the Bath and Bristol branch
of the British Medical Association,
and the subsequent discussion was
taken up by Drs. E. L. Fox, Swaine,
Marshall, G. Thompson, Davey, and
others, including, I think, Inspector-
General Caddy. My attention was
first particularly drawn to the sub-
ject by the very strong opinions in
favour of total abstinence, or nephal-
ism, as he preferred to call it, of
Mr. James Miller, when I attended
his lectures on surgery in Edinburgh,
1860-64. Subsequently I found Dr.
Gairdner’s valuable observations in
the Lancet and Edinburgh Medical
Journal on the treatment of typhoid
fever by milk in preference to al-
cohol, and I have had occasion for
many years—eighteen at least—to
verify the correctness of his state-
ments. For the last five years I have
been medical officer to the West Ham
Union Small-pox Hospital, where we
have treated nearly 1,300 cases since
it was first opened in 1877. During
the first two years, 1877 and 1878, beer
was part of the diet scale twice a day,
and was regularly given as a matter
of course; but on my taking office I
drew up a new diet scale, omitting any
kind of alcoholic liquor whatever,
which received the sanction of the
Board of Guardians, as did also an-
other proposal of mine at the same
time that the officers should be allowed
money instead of beer, when they
were so disposed. The death-rate of
the first 493 cases, treated on the old
system, was 19 per cent, and the death-
rate of the subsequent 800 cases or
more since stimulants have only been
ordered by me in precise medicinal
doses at stated intervals, and strictly
as a relaxant remedy, or in tedious
convalescence with feebie heart, &c.,
has been 13.6 per cent. The hos-
pital has certainly been otherwise
re-modelled and improved since I
first took office; still it is plain that
the disuse of alcohol as an ordinary
means of treatment has been in
every respect decidedly beneficial.
In a large union and club practice
in the East end of London, I also
find that by withholding alcoholic
treatment, except very occasionally,
and in carefully-selected cases, where
I have been forced to the conclusion that
it was my duty to prescribe it, I have
found that the non-alcoholic treatment
of disease is by far the best, and in
every way the most satisfactory. As
Dr. Richardson’s paper is to be pub-
lished in extenso, I need not recapitu-
late the cases only in which alcohol is
useful, necessary, or admissible, as
that will be done by a master-hand
far better than I could hope to do it.
But I have some doubts whether
psoriasis, which I have often found
associated or alternating with gout,
would be, as Dr. Richardson seems to
think, benefited by the administration
of alcohol: I am disposed to think that it might be hurtful; Dr. Drysdale apparently holds the same views as to its use in leprosy, acne, &c., thinking it probable that it might increase instead of modifying the complaint. But to my mind, there is no question as to its great value in the other cases mentioned by Dr. Richardson, particularly in combination with ammonia; in fact, ever since reading his remarks at the Medical Society's Meeting, of 11th November, 1872, I have invariably employed the treatment then suggested by him to prevent the formation of fibrinous clot, or even to release it after, by thus keeping up the fluidity of the blood. Here it is an invaluable remedy. Again, in cases of nervous prostration with extreme exhaustion, I have frequently used with marked benefit a prescription I copied in 1861, of Marshall Hall's, where he used, as Dr. Richardson recommends, ethyl alcohol, of course the only way in which one can reliably test the value of the remedy. It is composed of strychnia, acetic acid, alcohol, and distilled water, in doses of 1/5 gr. of strychn., and 5/1 of alcohol three times a day. In February, 1870, when I was suffering from a severe attack of neuralgia, being at the same time in practice in Edinburgh, I was attended by Dr. J. Warburton Begbie, who was at the same time attending Sir James Simpson for a similar attack. He prescribed 5-m. doses of tr.aconit. every two hours, and 20 grs. chloral c. syr. aurant et aq. destil. at bedtime, to be repeated in two hours if required; also claret. I told him I was a teetotaler, but I took two pint bottles in wineglassful doses every four hours on his recommendation, and then dropped it, as in forty-eight hours I was convalescent. Now, should I have a return of the neuralgia, I would try something more nutritious than claret, as I consider that Dr. Andrew Clark hit the mark in his recent utterances on that subject. Then again in profuse hemorrhage, angina pectoris, cardiac asthma, &c., I have found great benefit from prescribing precise doses of alcohol, as also in recovery in severe cases of confluent small-pox, the severe pneumonia, or frightful abscesses accompanying and following it, almost pyemic in some cases, as well as in recovery from adynamic fever. One of our leading surgeons in Scotland, narrating his own case, (as he does not give his name, I feel I had better not, but he is known to all medical men), in the Edinburgh Medical Journal states the extreme prostration, &c., he fell into after an attack of diphtheria, and that bark, nux vomica, and the like failing to make any improvement, he was induced to try Bass's bitter ale with the happiest result. Dr. Richardson mentions the value of alcohol as an antiseptic externally, mixed with tannin for example; I have found this the most useful application for severe bed sores. Its use by inhalation is new to me, but I think that combined with chloroform and ammonia, as used by Dr. Richardson, it will be in suitable cases extremely valuable; nay, simply invaluable. In shock, stun, and sudden chill, as a relaxant, alcohol is also useful, but as an anti-pyretic, I do not think it at all a safe or proper remedy. For reducing temperature, I have never found anything to equal oxalic acid, which I have been using in 1-grain doses or 5 grains in the twenty-four hours, plentifully sweetened and very largely diluted with water, as first recommended to me in 1865 by the late Dr. Scoresby Jackson. He used it as a refrigerant, sedative, and antiphlogistic in typhoid fever. I have also used it in cases of diarrhea, with feverishness, and a dry furred tongue, with the best results; my patients call it "the cooling mixture," and eagerly ask for it. In 1876, I wrote to Dr. Charles Murchison on the subject, but he replied that he had no experience of it, and that the only way to test it was by careful thermometrical observation. This has been done, especially in the last four years, among my small-pox patients, and has proved highly satisfactory. I am convinced that the circulatory system has been much improved by its use, and I have constantly found that alcoholic stimulants are not required or desired, when the oxalic acid solution is given, and that milk
and light nutritive foods, fluid or semi-fluid, are better assimilated than when alcoholics are given, in typhoid especially, although I sometimes cautiously and for a special purpose give alcohol when convalescence has commenced, but seems non-progressive; but in most cases I have found it quite unnecessary to order any. From my experience of it, I must say that oxalic acid has not received the fair trial as a refrigerant anti-pyretic which it deserves, and I am confirmed in this statement by the following letter I received from Sir Robert Christison; probably the last, certainly one of the very latest, of his communications on a professional subject, and hitherto unpublished:—

"40, Moray Place, Edinburgh,
"16th April, 1880.

"Dear Sir,—I know no reason whatever why oxalic acid should not be used medicinally in small doses, as well as any of our other formidable poisons. Its physiological action in large doses does indeed indicate it as available in small doses in disease. You are probably aware that it was in use many years ago in France for making acidulous drinks; and also that in the form of the binoxalate of potash it was in use on the Continent for the same purpose, as obtained from sorrel. I suppose it had been lost sight of in consequence of its great energy and swiftness of action in large doses as a poison. The same fate has befallen tartar emetic in consequence of its use as a secret poison by Palmer and Pritchard. The prejudice in both instances is unreasonable and injurious. Of course in using it care must be taken against too large doses or too great concentration of small ones.

"I am, yours sincerely,
"R. CHRISTISON.

"Dr. John Moir,"

I have also recommended it to Dr. R. McNeill, formerly resident medical officer to the "Atlas," Smallpox Hospital ship, but do not know whether he has tried it. Space compels me to conclude by saying that, except as a drug, the use of alcohol is unwarrantable and hurtful, and as a drug chiefly in the cases and modes so ably stated by Dr. B. W. Richardson.


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ABSTINENCE IN LUNATIC ASYLUMS.

By Wm. Dean Fairless, M.D., London.

It is most gratifying to notice the spread of temperance principles and practice in the County Lunatic Asylums, and be it remembered that, before this rule of life can be adopted therein, not only must the medical superintendent be convinced that the change proposed will conduce to the welfare of his patients in promoting their health and recovery—and he is always keenly alive to the bodily condition and contentment of his charge, and the death-rate of his institution—but he must be able also to carry his "Committee of Visitors" along with him, because they are, in an important sense, the guardians of the insane paupers of their country, and are bound to be satisfied that the change will prove beneficial.

I have pleasure in giving an extract from the recent report of my old friend, Dr. Murray Lindsay, medical superintendent of the Derbyshire Asylum, to the committee of visitors. At page 23 he writes:—

"The most important event, perhaps, of the past year has been the decision of the committee, on the recommendation of their medical officer, to discontinue entirely the use of beer, which is no longer an article
of ordinary diet for patients, attendants, and servants. The new arrangements took effect from January 1st, 1883.

"Working patients as heretofore get some extra diet, the attendants and servants receiving a liberal money allowance as compensation in place of beer. It is greatly to their credit that all the female attendants and servants, on being asked, and the large majority of the male attendants, preferred a money allowance to beer.

"On October 7th last the medical superintendent brought the question of the disuse of beer under the notice of the committee, and, at a subsequent meeting, the suggestions contained in his report were approved and adopted by the committee.

"To show how general the disuse of beer is becoming as an article of ordinary diet in pauper asylums, it may be stated that in eighteen pauper asylums in England beer has been discontinued as an article of ordinary diet, the last convert to the disuse of beer being the Devon County Asylum, and at another County Asylum (Oxfordshire) the question is at present under the consideration of the committee. At the last new asylum opened (Birmingham Borough Asylum, Rubery Hill, near Bromsgrove) beer has not been included in the ordinary diet. In a few years it will probably be found that in the majority of English pauper asylums beer will not be given as an article of ordinary diet; the minority at present giving no beer will soon, I believe, be converted into a majority.

"I am of opinion—an opinion, I believe, shared by many asylum medical superintendents—that the small allowance (half-pint) of asylum beer of the quality (about 6d. per gallon) given to patients contains so little nutritive or stimulant property as not to be entitled to serious consideration from a strictly medical point of view. It cannot nowadays be maintained that beer is necessary for the purposes of health, nor can it be shown that beer has formed part of the daily diet of most of the Derbyshire patients prior to admission to the asylum, for, as far as my inquiries have gone, it would appear that the large majority of patients, especially females, had not been accustomed to the daily use of beer prior to admission. The most, therefore, that can be said in its favour is that it may be an agreeable and, so far, wholesome beverage (certainly better than bad or tainted drinking water), but a luxury that may be done without.

"To my mind the chief objections against its use are of a domestic and disciplinary nature connected with the working of the establishment. It is frequently wasted altogether, given away to or taken by other patients of gluttonous or intemperate habits, who thus get more than their allowance, and it is often the source of loss of time and of divers troubles from misuse or quarrelling. In short, the supposed advantages from its use are not proportionate to its cost, and are more than counterbalanced by the disadvantages attending its use and misuse.

"I am not disposed to attach undue importance to the question of the use of beer from a temperance point of view, although I believe every asylum medical officer of experience must admit that even from this standpoint something can be said against its use, for it is a practical and important point to bear in mind that its abuse must also be considered, the excessive use of even light beer being attended with disadvantages, whilst its daily though moderate use no doubt tends to keep up and encourage the drink craving in those of temperate habits—the rock on which many have been wrecked prior to their reception into the asylum, intemperance having been in a considerable proportion of cases a partial factor at least in the causation of their insanity.

"The financial or economic aspect of the question, although of secondary importance to the health, welfare, and interests of the patients, is also worthy of consideration.

"In carrying out the new arrangement of the entire disuse of beer, I was prepared to encounter some difficulties, but in reality I have met with
Note on a Phase of Intoxication.

none, and it appears to work very smoothly and satisfactorily; in fact, better than I had anticipated at so early a stage, for I never had any doubt of its ultimate success.

"In accordance with a growing conviction entertained by the medical officers, the use of stimulants in the treatment of disease, and of the sick in this asylum, has been greatly diminished for the last year or two, more reliance being placed now on milk, arrowroot, beef-tea, and other nutritious articles of food. The amount of stimulants has now, I think, been reduced to a minimum. On December 31st there were no stimulants (beer, wine, or spirits) on the sick diet lists for female patients, and for male patients the quantity on sick diet lists was very moderate—viz., four ounces port, four ounces brandy, and two ounces gin. On the same day, at the morning visit of the medical officer, there were no female patients confined to bed, and in the male division six patients were in bed, which shows the favourite state of the general health of the inmates at that time."

To the above extract may be added a few lines from the report of the visitors, signed by the chairman, Lieutenant-Colonel Mosley, viz.:

"They would direct attention to the general satisfactory condition of the asylum, as disclosed by the low death-rate and high rate of recovery amongst the patients. On the recommendation of Dr. Lindsay, your committee recently ventured to sanction the entire disuse of beer at the asylum as an ordinary beverage, whereby a great saving of expense will be effected, and as it is believed will be the case, with perfectly satisfactory results. The same thing has been tried at other asylums with success."

The beneficent tide of temperance truth is rising steadily. It will reach the doors of all our rate-supported and charity institutions first; and let us hope that the hour is not far distant when, sweeping down all barriers, it will bring its blessings to the hearthstone of the toiling multitudes.

NOTE ON A PHASE OF INTOXICATION.

By William S. Savory, Surgeon to St. Bartholomew's Hospital.

In all that has been written on the subject of intoxication, one phase, and that perhaps the most common, of poisoning by alcohol has almost escaped description. Fits of drunkenness, in its various degrees, after a debauch on the one hand, and disease, for the most part, in the form of degeneration of some kind from prolonged excess on the other, are of course only too familiar among its effects. Much also has been said of the general depression and disturbance of function which usually precede the establishment of organic disease; of the loss of appetite and craving for stimulants, and even need of them for immediate and temporary exertion of any kind. But I allude now to none of these. I refer to a state often antecedent to the one last mentioned, of what I would call habitual narcosis—a state due not to a comparatively large excess of alcohol at any one time, but to the daily, almost hourly, imbibition of beer or spirits. Alcohol in some form is taken not at any one moment in very large quantities, but at intervals so frequent as to keep up its effect in a powerful degree continuously through the twenty-four hours. This habit pervades all classes of society, but it prevails most largely, or at all events it is most openly illustrated, among the lower. I believe that it may be seen most commonly in the carmen who drive slow and heavy wagons through the streets of London. These men hardly ever seem to be thoroughly awake. They sit for the most part
Craniology of Inebriates.

bent forward, with a dull, drowsy countenance, the eyes either half or wholly closed, and the limbs and body shaking with the vehicle from sheer relaxation of the muscles. If the horses with them were not more intelligent, none would dare to venture within their range. This condition is not due to mere fatigue or weariness. The swollen features, the congested surface, the bloodshot eyes, tell another tale. Moreover, when aroused from this stolid state, the behaviour is characteristic enough. When suddenly surprised they speak or turn round, but not as one overtired and half asleep, or even naturally very stupid, but only after a prolonged interval, with slow and lethargic action, like the movement of a sloth or tortoise. Perhaps in civilised life there is no state of human nature lower than this. Here the blood is constantly charged with alcohol, and the brain and other nerve centres are always largely under its influence.

But inevitable as the result is here, when nothing stronger than their own will intervenes to interrupt its course, if from these men alcohol be forcibly withheld for a time, before the stage of serious organic mischief has been reached, they are usually restored very rapidly, nay often become changed in a startling way. When such men are brought with some injury to a hospital they are likely to pass through an attack of delirium tremens, from which, however, they usually recover, and the approach of this is made manifest by want of sleep, general depression, and tremulousness. But most of them, if the injury be not too severe, after passing a few days in a heavy, drowsy state, craving for beer or gin, rapidly grow brighter and fresher, become more alive, and before long are so changed for the better in every way that it must be difficult, I should think, for the patient to believe in his personal identity.

Something is to be learnt from these cases. Formerly it was assumed to be highly dangerous to suddenly deprive a man, who had been accustomed to excess of them, altogether of stimulants. I would not venture to say that this can invariably be done with impunity, but I have no hesitation in saying that as a rule the practice is safe and satisfactory. And in the very exceptional instances when danger threatens, it can, I think, be usually foreseen. If a man can sleep and eat tolerably well, his life does not hang on stimulants. Nay, even in delirium tremens, looking to these signs, we may with the best effect often withhold them. I suppose it is well understood now that it is not good practice to prescribe stimulants in delirium tremens as a matter of mere routine. When such patients as these come under our care I would always, when practicable, give them time for recovery from the effects of this bad habit before subjecting them to any operation, or even to measures of severe restraint. The time is well spent in leaving such a patient alone for some days to the influence of suitable food and the rigid exclusion of alcohol in any form, and in standing by and watching the change in the furred tongue, and foul breath, and obtuse intellect, until at length he may truly say of a demon more potent for evil than that which assailed Macbeth—

"Why, so: being gone,
I am a man again."

—Lancet.

CRANIOTOLOGY OF INEBRIATES.

Dr. J. S. Wright, professor of surgery in the Long Island College Hospital, of Brooklyn, U.S.A., has lately made some original studies of the heads of inebriates, comparing them in size and special developments with those of epileptics and others.

He assumes that any organ which
has notably deviated in conformation and volume, has also deviated in function, that the brain may deviate from the standard of conformation and volume, that any organ of the body has in health a fixed, though variable, function. The first question to be solved was this: Does the confirmed inebriate have an abnormal conformation of the brain? In answer, the heads of thirty-five confirmed inebriates, inmates of the Inebriates' Home at Fort Hamilton, New York, were measured and compared with similar measurements of thirty-five uneducated men. The average weight of the inebriates was found to be less, owing to the derangement of nutrition and general health, but the average height was greater. The head of the confirmed inebriate had a greater circumference than the head of the uneducated man, but this measurement cannot be depended upon as an index of the volume of the contained brain. His conclusions were:

1. The uneducated man has a greater volume of brain in the anterior part of the cranial cavity than the confirmed inebriate; also a greater volume in the posterior part of the cranial cavity.

2. The confirmed inebriate has a greater volume of brain in the middle part of the cranial cavity than the educated man; also in the middle region of the head the vertical diameter of the inebriate is greater.

Hence it appears that the brain of the inebriate shows a deviation of both organism and function. In the majority of cases the conformation and the volume of the brain are attained by the time the individual is twenty-five years of age; hence inebriety may not be the cause of the deviation in conformation and volume of the brain of the confirmed inebriate. The causes must operate previous to that date. They must occur during this early life of the individual, or they must be hereditary. In many cases these causes are inadequate to produce the deviations in volume and conformation found in the brain of a confirmed inebriate; hence it is concluded that they are mainly hereditary. It is also thought that the brain of the confirmed inebriate is of poorer order of development than the normal brain.

It follows then that these deviations of the brains of confirmed inebriates are properly to be treated as diseased conditions, and that a confirmed inebriate must be treated as a sick man.

In the study of the question, Do epileptics have an abnormal conformation and volume of brain? a large number of cases were examined. The result reached was that the brain in incurable epileptics is a deviation both in structure and function. The outset of the disease is generally hereditary. Given this outset, manifested in the conformation of the brain, we have a basis for the development of epilepsy, or inebriety. Looking upon certain individuals as having heads deviating from the standard of volume and conformation, and finding that they are not adjusted to the conditions in which they live, and that they exhibit abnormal functional manifestations, and seeing that the influences of disease and injury augment their deviations, in a given case of injury or disease we may have in the brain itself an important indication as to what the clinical history may be not only immediately, but during the rest of the life of the individual. Dr. Wright noted also that the average criminal exhibits a deviation from normality; and concludes that the brains of inebriates and epileptics vary but little, and with slight changes would readily run into each other. The modified brain found in the epileptic has often descended from the altered brain of an inebriate.—Phrenological Magazine.
DIPSOMANIA, according to Professor Lasègue, who has recently made a study of it in the *Archives Générales de Médecine*, is a neurosis closely resembling alcoholism, but characterised by intermittent accesses which continue until the moment when, the crises having passed, reason resumes its empire. The difference between drunkenness and dipsomania has been extremely well put by Trélat, in these terms: “Drunkards are people who get drunk whenever they have the opportunity of drinking; whenever their attack overtakes them, dipsomaniacs get drunk; in the end, tipplers generally become physically and pathologically alcoholised; dipsomaniacs always become so.” Dipsonmania, M. Folleville regards (*Revue de Médecine*) as an always hereditary, always spontaneous neurosis, absolutely independent of the habits of the individual. Most dipsomaniacs are eccentric, impetuous, often cruel, and sometimes completely insane. Sometimes persons are met with whose intelligence appears absolutely normal, and shows no irregularity in the intervals of the attacks. At the approach of these attacks the patient experiences a vague uneasiness, he is uneasy, subject to motiveless fears, and often shows suicidal tendencies. Muscular vigour becomes weakened, the patient feels inclined to faint, and he is tormented by dipsomaniac symptoms which presently renew the morbid impulse. Resistance is impossible at the outset, but soon the crisis becomes aggravated, the impulse becomes irresistible, and in order to obtain drink the patient has recourse to the most varied and incredible stratagems. Sometimes dipsomaniacs yield to their impulse cynically, without any self respect; sometimes, on the contrary, they wrap themselves up in mystery and precautions, and seek to keep the secret of their habits. The fit of dipsomania does not last for ever; after a very variable time, sometimes days, sometimes weeks, sometimes months, the patient awakes. The impulse is calmed; repentance makes itself felt. It is often accompanied by dyspepsia, frequently intense, and by disgust for drink. These intervals of lucidity may be very prolonged, and last as long as months; but, in the majority of cases, they become shorter and shorter, till they reach what, according to Lasègue, is known in England as the diurnal type of dipsomania, in which the patient gets drunk every night, and repents every morning. The choice of drinks varies, and some patients intoxicate themselves with ether, or with chloroform inhalations. Various complications are observed, especially in women, such as great excitement, or an irresistible tendency to robbery, murder, anthropophagy, and suicide. The causes of dipsomania are, first, heredity; all the most various forms of alienation may be found in the history of the ancestors of patients. After this come alcoholism, sexual abuse; then all causes of debility—the puerperal state, abundant hemorrhages, injuries, insolation, excessive labour, troubles, poignant anxieties, the menopause, and parturition. Dipsomania is often difficult to distinguish from the excesses which mark the appearance of insanity, and especially of general paralysis. The prognosis of dipsomania is absolutely hopeless, especially when the case is one of hereditary and spontaneous vice, and not an acquired habit. These patients are never cured, in spite of the most various treatment. In dealing with dipsomania therapeutically, it is advisable at first to attack the dipsomania by means of an appropriate treatment, to employ such remedies as nitrite of silver, revulsives, bitter tonics, hydrotherapy. Finally, one only method appears to be of certain efficacy, and that is isolation, and lengthened confinement of the individual almost indefinitely prolonged. — *British Medical Journal*.
DALRYMPLE INEBRIATE HOME.

A MEETING on behalf of this proposed institution was held on Thursday, May 31st, in the Egyptian Hall of the Mansion House. The Lord Mayor presided at the opening, and the Rev. Canon Duckworth during the latter portion of the proceedings.

Dr. Norman Kerr (hon. secretary) said that numerous letters of apology for unavoidable absence had been received, one being from Sir Henry Thompson, who wrote: “That such an institution may be very serviceable to a class of persons who are the victims of their inability to withstand the temptations of drink there can be no doubt. There are, unhappily, not a few such; and I conceive it to be the duty of those who desire to benefit their fellow-creatures to afford to any who really require it the material aid which this institution is designed to offer.”

The Lord Mayor said that in 1879 Parliament passed an Act with regard to habitual drunkards which was not only tentative, but was imperfect, because it contained so much of a permissive character, and if they wanted to deal successfully with habitual drunkards they must have something more stringent than a permissive Act of Parliament. It was designed to establish under the Act of 1879 a Home, conducted on economical principles, capable of receiving large numbers of patients, and which should be to a certain extent self-supporting. The Cedars, at Rickmansworth, had been acquired for £3,700, and, including alterations and furnishing and fitting, it was estimated that a total sum of £5,000 would be required. To meet this sum only £1,500 had been subscribed.

Dr. Norman Kerr read a letter from Mrs. Dalrymple, widow of the late Dr. Dalrymple, of Bath, stating that she was willing to increase her donation from £3,000 to £1,000.

Dr. Farquharson, M.P., moved, “That the diseased state of many inebriates calls for their residence in some institution where they can be placed under curative treatment, where the surroundings will be favourable to cure, and where there will be no temptation from the presence of intoxicating liquor.” The hon. member said that this excellent institution would give an opportunity of trying an experiment on a large scale, and it would be most unfortunate if it should fail from want of funds.

Dr. A. Carpenter seconded the motion, which was agreed to.

Dr. Cameron, M.P., moved a resolution pledging the meeting to do all in its power to raise the sum of £5,000 to purchase the freehold property in Hertfordshire, selected by the committee, and to furnish the Home. The hon. member said that the Act would expire in 1890, and unless they could show that what had been done in America could be done in this country, they might look in vain for an extension of the Act.

The Hon. C. A. Dillon seconded the motion, which was carried.

Mr. F. D. Mocatta moved, “That to enable the Dalrymple Home to receive inmates at as low a rate as possible, an annual subscription list be liberally guaranteed.”

Dr. Harrison Branthwaite, in seconding the motion, said he knew two cases in which ladies were ready to become inmates of an institution of this kind. They were both under twenty-five years of age, and he had attended them four times for delirium tremens.

The resolution having been adopted, Dr. Norman Kerr said they had to meet two difficulties; one was the incredulity of people who ought to know better as to the curability of an habitual drunkard, and another was the objection that intemperance was a sin and a vice which ought to be met with moral and spiritual agencies alone; but these homes were intended for dipsomaniacs.

Dr. E. Hart Vinen moved, “That this meeting regrets the defective
character and temporary duration of the Habitual Drunkards Act, and desires to urge on the Legislature the great need for a prolongation of the Act, for a strengthening of its powers, and for relaxation of the stringency as to the admission of an habitual drunkard to a retreat.”

The Rev. W. Barker (Rector of Marylebone) seconded the motion, which was agreed to.

On the motion of Mr. C. Dalrymple, M.P., seconded by the Rev. J. W. Horsley, a vote of thanks was passed to the Lord Mayor for granting the use of the Mansion House, and the proceedings terminated.

Notes and Extracts

ARE HOP BITTERS A HUMBUG?—Having seen a column weekly concerning hop bitters in a large number of religious papers recently, some persons asked the Massachusetts State Assayer, Mr. Charles R. Fletcher, an able chemist, to carefully analyse a bottle of these bitters. He found that they were composed of water 85.956 per cent.; alcohol by weight, 14.050 per cent.; and hop bitters and extractive matter, 0.314 per cent. In other words, they contained from three to four times as much alcohol as there is in lager beer, and over one-third of 1 per cent. solid or hop matter!—American Paper.

DEVELOPMENT OF DIPSOMANIA.—In a letter to the British Medical Journal Dr. J. Pearson Nash says:—”With the view of altering the present anomalous state of the law regarding the management of dipsomaniacs, would it not be advisable for the Secretary of the Collective Investigation Committee to institute inquiries concerning the development of dipsomania, and the mode of procedure to be adopted with persons suffering from the effects of intemperance in the varied forms so largely prevailing at present in both sexes, which must be the cause of so much anxiety and misery to thousands of families—and, I might add, to millions yet unborn?”

ALCOHOL AND GENERAL PARALYSIS.—In a paper contributed to the Lancet Dr. Thomas Brown, of the Royal Navy Hospital, Great Yarmouth, says:—”I have made little reference to the use of alcohol in the diet of a general paralytic, because I have a decided opinion that it can seldom be a desirable addition to the diet of a patient labouring under such a disease. It is suggested by some writers that chloral, so often useful in this disease, has a depressing effect, and that it is well to give alcohol in some form or other to obviate that result. But careful observations have shown that the pulse, as estimated by the finger, is not lowered by a moderate dose of chloral. The omission of alcohol in every form from the diet and medicine of patients suffering from general paralysis has been attended with no ill result. The experience gained at this hospital agrees with the observations of those writers who have recently stated that as the consumption of alcohol was reduced, the necessity for chloral greatly diminished, so that now in many hospitals the administration of chloral or other sedative is quite exceptional in cases of general paralysis.”

BEER IN THE PARIS HOSPITALS.—The Progrès Médical (June 9) criticises a rather arbitrary circular which M. Quentin, the Director of the Assistance Publique, has just issued to the directors of the Paris hospitals, with instructions to communicate it to the medical officers. In this he declares that the consumption of beer in the hospitals has for some time past so
increased as to become a very serious charge upon the budget and deranging its equilibrium. This abuse, as he terms it, he can no longer permit, for beer he declares to be neither a food nor a medicinal agent, and therefore it must from this date cease to be furnished as one of the current articles of diet, and only become procurable by means of exceptional prescriptions of the *chef de service* under the surveillance of the Central Administration. The *Progrès* disputes the assertion that beer is neither food nor medicine, and states that the medical officers find it of great value in the treatment of disease, and regard it as somewhat surprising that the Director should have issued this decree (which really means almost entirely stopping the use of beer) merely for economical reasons, without consulting the medical body as to its propriety. If economy is the object in view, there is said to be ample means of accomplishing it in the hospital administration, which is far too numerous.---

*Medical Times and Gazette.*

**INFANT MORTALITY FROM ALCOHOL.**---In his first annual report of the sanitary condition of Willesden for the year 1882, Dr. Harrison Branthwaite, F.R.C.S.E., medical officer for Willesden, enters at length into a consideration of the steady increase in the mortality of children, remarking that the parish of Willesden has not been singular in this respect, Boards of Health in many localities deploring the extent of the same evil and looking for a remedy. Among the causes of this lamentable "massacre of the innocents," Dr. Branthwaite gives a prominent place to drinking. He says:—"The pernicious habit of drinking large quantities of ale or stout by nursing mothers, under the idea that they thereby increase and improve the secretion of milk, whereas they are in reality deteriorating the quality of that upon which the infant must depend for health and life." Dr. Edis, who gave great attention to the subject of infant mortality, summed up his conclusions by stating that this loss of life was mainly due to two causes—the substitution of farinaceous food for milk, and the delusion that ale and stout were necessary as an article of diet for nursing mothers. An inquiry was some time ago instituted at Macclesfield upon this subject of infant mortality, and the committee gave as one of their findings, "That an over-indulgence in drink, a craving for which is frequently induced by the conditions of unwholesome dwellings and vitiated atmosphere," was one of the causes of infant mortality.

**ALCOHOL IN WORKHOUSES AND HOSPITALS.**---The alcohol question has been recently discussed by several Boards of Guardians, and there appears to be a growing desire to discourage the use of alcoholic drinks in workhouses. The Leeds Guardians, by a majority of fifteen votes against four, lately resolved that no alcoholic drinks whatever shall be allowed at the workhouse. The following important statement respecting St. Mary’s Hospital has been published in the *British Medical Journal*:

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of In-patients admitted</th>
<th>Cost of Ale, Wine, and Spirits (£ s. d.)</th>
<th>Cost of Milk (£ s. d.)</th>
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<tbody>
<tr>
<td>1871</td>
<td>1,940</td>
<td>764 12 7</td>
<td>455 15 5</td>
</tr>
<tr>
<td>1872</td>
<td>1,777</td>
<td>715 15 0</td>
<td>470 8 11</td>
</tr>
<tr>
<td>1873</td>
<td>1,753</td>
<td>654 17 8</td>
<td>465 6 5</td>
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<td></td>
<td>Total for 3 yrs.</td>
<td>5,479 5 3</td>
<td>1,421 4 9</td>
</tr>
<tr>
<td>1879</td>
<td>2,164</td>
<td>455 15 5</td>
<td>665 2 1</td>
</tr>
<tr>
<td>1880</td>
<td>2,138</td>
<td>470 3 11</td>
<td>718 18 0</td>
</tr>
<tr>
<td>1881</td>
<td>2,253</td>
<td>495 5 6</td>
<td>516 9 9</td>
</tr>
<tr>
<td></td>
<td>Total for 3 yrs.</td>
<td>6,548 4 6</td>
<td>1,858 9 10</td>
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</tbody>
</table>

Dr. S. T. Knaggs, in his medical report of the Newcastle Hospital, N.S.W., remarks:—"I availed myself of a recent trip to Europe to inquire into this question in all its bearings, and the result has satisfied me that much advantage and economy can be derived by moderating the quantity of stimulants supplied to hospital patients. During the past year I have adopted this view in my practice at the hospital, consequently a very much smaller quality of stimulants has been used, without any detriment to the patients’ welfare."
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CHOLERA.

By Surgeon-General C. R. Francis, M.B.,
Indian Medical Service. Formerly Officiating Professor of Medicine in the Medical College, Calcutta.

No disease, perhaps, creates so much anxiety and alarm as cholera. Its sudden advent, rapid course, and frequently fatal termination, invest an attack from it with peculiar terror. A recent arrival in India, buoyant with life and energy; well and hearty it may be at the morning meal; afterwards writing letters full of love and hope by the outgoing mail to the dear ones at home; at night a corpse; and, saddest thought of all—such is the inexorable necessity in that country—swept off the face of the earth, and buried before sun-rise on the following day.

Notwithstanding this gloomy and depressing picture, it is encouraging to know that cholera is not always and inevitably fatal: and that the issue of the struggle will very much depend upon our own mental and physical ability to battle with it. In no country in the world does the “mens sana in corpore sano” stand us, when attacked by acute disease, in such good stead as it does in India. If the constitution be naturally sound, not injured by previous excesses or disease, there is no reason why, provided nature be skilfully piloted, the patient should not ultimately recover. There are indeed some visitations where the first cases—such is the virulence of the poison—seem to defy all treatment and care: and those stricken rapidly succumb. Apart from the period of incubation, extending from one to several
days, there is a preliminary stage which, if early recognised and judiciously treated, may be all of the disease that appears.

In the present paper, which is intended to be essentially practical, I propose to say a few words about the disease under three heads: (a) its symptoms and treatment; (b) its causes and pathology; (c) its propagation, prevention, and history. In its typical forms cholera is divisible into four stages: (1) the premonitory; (2) the fully developed stage; (3) the stage of collapse; and (4) that of reaction. In some cases there are no preliminary symptoms whatever; in others no second stage even; but the patient, overpowered by the force of the attack, collapses at once; and all is soon over.

SYMPTOMS AND TREATMENT.

Premonitory Stage.—As a rule, the most prominent symptom, in the premonitory stage, is diarrhoea; often thought but too little of by the patient, who probably asks for a dose to carry it off, or takes one himself. He fancies that something has disagreed with him. The stools are semifluid at first, gradually becoming less and less consistent. Sometimes they are of a bilious character; and the inexperienced practitioner may himself be deceived, and treat the attack as one of bilious diarrhoea. I have known some of the worst cases of cholera to begin in this way. Associated with the diarrhoea, or without it, there is a feeling of malaise; the individual is "out of sorts;" but this is not, any more than the diarrhoea, a constant symptom. Or there may be indications of, apparently, coming fever — as catarrh — with nausea, and uneasiness at the pit of the stomach. Instead of fever, however, or "biliousness," to which the nausea and epigastric uneasiness would seem to point, these are probably evidences of true cholera, which has been insidiously making headway for some hours past. When this is the case — when cholera is in the system — but little is required to develop it. I once, during an epidemic, saw an attack precipitated in the wife of a gunner in the Artillery. Well, apparently, up to II a.m., she then accidentally swallowed a fly. Vomiting at once set in, and in twenty-four hours she was dead.

If it be cholera weather, i.e., a heavy, moisture laden, muggy, atmosphere, preventing free exit of effete products from the skin, which may be at the same time covered with perspiration; if the disease be about; or there be a suspicion of its coming; the diarrhoea must be stopped, and the sooner the better. The value of early treatment in this stage has been so frequently demonstrated that one is surprised to find it so much neglected. I have known a military officer, with the premonitory diarrhoea
Cholera.

actually upon him, and which he had aggravated by taking a couple of aperient pills, sit down to breakfast and eat a basinful of freely-sweetened bread and milk—than which last there is nothing worse in electrical states of the atmosphere, owing to its tendency to become sour—and come into my room (we were living together) an hour afterwards, looking like a corpse, and complaining that he had been once purged, and vomited all he had eaten, the milk coming up like boiling acid. At five o'clock he was in his coffin. The medical officer of a large civil station complained of diarrhoea and being “out of sorts.” Cholera had appeared in the city. One morning, about nine o’clock, having been at work for two or three hours on an empty stomach, he returned from his duties rather more fatigued than usual, and, before sitting down to breakfast, took a cold bath. Within an hour cholera was developed, and before sunset he was dead.

When cholera has appeared amongst the troops, European or native, under my medical charge, I have always gone amongst the men and addressed them on the importance of at once, if attacked with looseness, coming to the hospital and remaining under observation for a time. The good effects of this advice was once strikingly shown at a large station in Upper India. Whilst a neighbouring regiment had several cases in the course of a general epidemic, in my own, although the barracks were almost contiguous, there were comparatively very few; but many had come to hospital, and been kept under treatment for the premonitory diarrhoea. Where there is no diarrhoea, but one or other of the symptoms before-mentioned, with constipation, a little castor oil may, in some cases, be prescribed. But great judgment is necessary. Under no circumstances may a saline or drastic purgative be given. I have known a dose of jalap, taken by a native in the evening, bring on profuse purging during the night, and before the morning he was dead. If oil be prescribed, the time must be so regulated that it shall operate during the day. It is somewhat remarkable that whilst salines or drastic cathartics have frequently developed cholera, no case of the disease, that I am aware of, has ever been ascribed to castor oil.

During thirty years of active service in various grades, administrative and executive, in India, it has been my misfortune to see a great deal of cholera in almost all parts of the Bengal Presidency; and I have witnessed a great variety of treatment, from bleeding and the warm bath, in which the death-rate was high, to opium and alcoholic stimulants, in which it was even higher. The truth is that, once let the disease obtain a footing, nothing will stay its course. Skilful pilotage and good nursing—no condition requires such unremitting attention as the collapse
of cholera—will avail more than medicine. If to these be added
a good constitution, the chances of recovery are above par. It
is in the preliminary stage that most good will be done, and
there is no remedy equal to opium. Many vaunted astringent
combinations are in use; but the most effective are those which
contain this drug. Nothing so completely soothes and tran-
quillises the nervous system; nothing so comforts the patient,
who is naturally anxious, as opium. I usually prescribed

Ol. Ricini, ʒ ss ad ʒ i.
Træ Opii, m. xx. ad m. xl.
Alcohol (brandy) ʒ i. (a teaspoonful),

to be repeated, in whole or in part, according to circumstances;
the quantity of opium to depend upon idiosyncracy and habits.
The brandy was given as a vehicle to enable the stomach to
retain the oil. Milk might, perhaps, answer as well. When the
stomach is irritable, morphia may be hypodermically injected.

Lieut. L——, of the Artillery, attended the funeral of the
officer whose case I have referred to. Shortly after his return
home, he felt as if he was about to have diarrhoea, and,
much alarmed, sent off post haste for me. I went at once,
and found him in a very perturbed state of mind, bathed in
perspiration, and believing himself, as he termed it, in for an
attack. There was a rumbling, he said, inside. I prescribed
ʒ j. of castor oil and ʒ ss. of laudanum, and did my best to
cheer him up. On going again a couple of hours afterwards,
my patient rose from his chair, and, coming forward with a
beaming face, exclaimed—“Doctor, you’re a king.” The
tendency to diarrhoea had ceased, and he felt soothed and comfortable.
The (then) lieutenant is now a retired hale and hearty major-
general. The diet is of great consequence in this stage. It should
consist, exclusively, of strong beef tea, mutton, or chicken, broth
made from fresh meat, and thickened with arrowroot, tapioca,
sago, or corn flour; with a little toasted bread: and, for drink,
very small quantities of aerated water. This should be continued
—it will be only necessary probably for a day or two—till the
stools return to their usual consistence. Anything likely to act
upon the bowels should be religiously eschewed, whether there
be diarrhoea or not, if cholera is “in the air;” unless, indeed, there
be decided constipation. Alcohol, in any form, as a beverage, is
quite unnecessary; and, by depressing the nervous system and
thus predisposing to the disease, may do infinite harm.

The stage of full development.—When cholera is fully de-
developed, the characteristic symptoms are whey-like, or rice-water,
stools—so called from their resemblance to rice boiled in water—
and mingled in some cases with shreds of mucus; suppression of
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the secretions—notably the bile and the urine—except in nursing mothers the secretion of milk, which also subsides in prolonged collapse; with others that are more or less constant, as burning, or a sense of pressure, at the epigastrium; the peculiar countenance so pathognomonic, when it occurs, of cholera; cramps, varying in severity with the patient’s muscular development; urgent and distressing thirst; clamminess of skin; anxiety; and great restlessness, &c.

An attack of genuine cholera is usually ushered in by frequent vomiting and purging. At first the ordinary contents of the stomach and intestines are expelled; but, if the disease progresses, these evacuations begin to assume the characteristic features of cholera ejecta; becoming, often, first, of a drab colour, then like whey; and sometimes they are nearly as clear as pure water. The fluid vomited from the stomach resembles that passed from the bowels, though its appearance is modified by the medicines taken. In some cases—and these are often the most severe—there is neither vomiting nor purging, though the former is of the two most frequently absent. The peculiar fluid is, however, as a rule, found in the intestinal canal. Though, where the poison has been concentrated, as it were, into its maximum of intensity, the patient has rapidly succumbed without giving any intestinal evidence of the true nature of the attack. Occasionally, the abdomen is tense, somewhat swollen, and painful on pressure; but, as a rule, as collapse approaches, it is flat and sunken. The conjunctivæ are, often, injected; but the intellect is clear, even in bad cases, to the last. Amongst the earliest symptoms of fully developed cholera are frequently a tendency to coldness of the surface and rapid prostration. The sudden withdrawal of animal heat is very remarkable. It occurs even in the hottest weather. The most powerful means for creating warmth—hot baths, hot vapour, &c.—produce no real effect. Surrounding bodies may be heated, but the human frame retains its mortal coldness; indeed, I believe that I have seen the algid condition positively aggravated by the warm bath. A very remarkable occurrence is sometimes to be noticed: although the patient may have been thus cold, for an entire day, even, before death, the temperature of the body rises after death, and remains so for several hours. What can be the cause of this? What would Dr. George Harley say? Germs? Fermentation? Or, is there oxidation?

A case of fully developed cholera once seen, its features are never forgotten: there is no disease like it, except, indeed, Peshawur fever in the cold stage in its most acute form. Attacks vary greatly in intensity; and many are returned as cholera—the fever just mentioned for example—which are not the genuine disease. In
summer time, in England, cases of severe and protracted diarrhoea sometimes occur; but the stools, as well as what is vomited, contain bile: urine also is passed: the mortality is comparatively insignificant: and the cause may usually be traced to unripe, or excess of ripe, fruit; or other error in diet, as evidenced by the (often sharp) griping. Similar cases are sometimes seen in India. In the course of an epidemic of true Asiatic cholera cases of prolonged painless diarrhoea sometimes occur, with or without vomiting and cramps; the stools being, not "rice water," but very liquid and pale, seriously exhausting the patient, who in many cases—a form of low fever is occasionally concomitant—succumbs without any further development of the cholera attack, which is considered to be caused by a mild dose of the cholera poison: hence the term "choleraic diarrhoea." There is not complete suppression of the urine; but, sometimes, these cases pass into true cholera.

When cholera has passed into the second stage, opium is still, in the early part of it, our sheet anchor. My practice, of late years, has been to give gr. x. of calomel—I prescribe calomel for a reason to be presently stated—with gr. ij. of solid opium or m. xl. of the tincture; and follow it up with gr. i. of the former, or m. xx. of the latter, up to gr. vj. or gr. vij. of opium, or 3 ij. or 3 iij. of laudanum. The quantities of the drug, and the intervals of time must be decided according to circumstances, as in the first stage, by the medical attendant, who will be guided by the nature of the case; for no two are exactly alike.* The patient must be kept perfectly quiet in the recumbent position as far as possible—the bed-pan being used—and have as much air as is available in a well-ventilated apartment. It is too frequently the fashion to crowd round a patient, and thus to still further poison the blood already becoming de-oxygenated. Moreover, the alarm of the sufferer is naturally increased by seeing so many anxious faces. If two or three limbs are simultaneously attacked by cramp, friction, with or without stimulating liniments, with as many pairs of hands would seem to be required. But should the pain be very severe, chloroform, if otherwise admissible, may be inhaled; though, when the effect has ceased, the spasms are apt to recur with greater force: in which case, however, the chloroform might again be inhaled. The practitioner must exercise his judgment in having recourse to chloroform or friction for the relief of spasm.

It is not wise to give draughts of water, as vomiting may thereby be increased, or provoked; but ice may be sucked almost

* As before stated, hypodermic injections of morphia may sometimes be substituted for opium by the mouth.
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ad libitum. In this way water is gradually re-introduced into the system and the urgent thirst of the sufferer is pleasantly appeased.

If, under the influence of treatment or otherwise, the attack remains in abeyance, and does not pass into the third stage, recovery may, if the constitution be sound, with confidence be looked for. This is indicated by the face assuming its natural expression, and the quieting down of the whole system; by, above all, the stools diminishing in frequency and containing bile, whilst the urine again makes its appearance. Where, however, the surface has become cold, the pulse frequent and feeble, and the respiration quickened, the disease will probably run its course.

A wise practice prevails in India—one which might be adopted in every household during an epidemic in England—of having anti-cholera remedies in readiness. When I have held appointments involving a retinue of clerks I have always kept, in an inner room, a bottle of tincture of opium, one of tincture of rhubarb, and another of chlorig ether; and I have reason to believe that, in many instances, an attack of cholera has been arrested at the very outset by giving at once a full dose of each of the medicines. The following is a useful prescription for adults:—

Træ. Opii, ʒ iii.
Træ. Rhæ., ʒ j.
Spir. Chloroform (chlorig æther), ʒ iii.
Aqua ad, ʒ j.

Two teaspoonfuls for a dose; a single teaspoonful to be given within an hour if necessary.

An admirable pill, composed as follows, is also sometimes distributed, with instructions, during an epidemic, to heads of villages and others.

Opïi, gr. ii.
Assafetida, gr. i.
Black pepper, gr. i.
Red do. i.

To be taken at once on first appearance of the symptoms, and to be repeated hourly if necessary up to three or four pills.

A few grains of blue pill might be added. I have distributed thousands of such pills, at various times, with good results. It is worthy of note that natives of India (though, if nothing be done, they succumb rapidly to cholera) recover quickly if promptly treated. The disease, in them, is apt to run quickly into the collapse stage; but, as a rule, they are less liable to complications. Their temperate habits may partly account for this immunity.

Stage of Collapse.—The appearance of a patient in collapse from cholera is certainly, when seen for the first time, very
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appalling. The shrunken face, the eyes sunk in their sockets, the shrunched hands and blue nails, the cold clammy surface, the absence of any pulse at the wrist, the voice reduced to a whisper, the constant call for water, and the characteristic smell that pervades the apartment—all this must be seen and felt to be appreciated.

If there is one thing more than another that gives me unmixed pleasure in the retrospect of my professional career in India, it is the number of cases that I have seen recover from this stage of collapse. Half a century ago it was looked upon as the prelude to an inevitably fatal issue. “Let him die in peace, why torture him any more with medicine?” has often been said, when the patient fell into this condition. Now, let the surface be algid, the pulse gone from the wrist, and the voice almost inaudible, if the constitution be good, the nursing judicious, and the treatment appropriate, the prognosis, though always uncertain, may still be hopeful.

Opium, so valuable before, is a poison now. So is brandy, or any alcoholic stimulant. It is a sad and humiliating reflection that, although we have known the disease for the best part of a century, and even longer, in India, the death-rate from cholera has, during the past twenty-five years, been greater than ever. In the 3rd Buffs, in 1867, it varied from 45.4 to 96.7 per cent. The epidemic was indeed unusually severe, and stimulants, which were largely used, had no curative power whatever. I should be sorry to say that they increased the death-rate, which was as high at another period of the same epidemic when the consumption of stimulants was much less. They, clearly, did no good, at any rate.

When I first went to India (in 1844), brandy was considered by many medical officers in charge of European regiments, the only reliable remedy in collapse. Happily, the belief in alcohol is passing away. It tends to narcotise the system, a condition to be dreaded in the coming stage of reaction. Whatever, therefore, tends to aggravate this condition is to be avoided. Stimulants must, indeed, be used, in view to sustaining the flagging powers of nature: as ether, sal volatile, ammonia, and camphor, in small doses frequently repeated. These will sometimes give a filip to the circulation, and help to keep life in the patient whilst Nature is recovering herself. In cases where collapse sets in early, the pure liquor ammonia may be given in doses of 3 j. every hour in a wine-glassful of water up to eight doses, if required; and every two hours afterwards till the circulation is restored. The hypodermic injection of ether answers well, sometimes.

The time for arresting the alvine discharges has passed, though we may still endeavour to arrest them. I have, I believe, seen
great benefit from small quantities of beef tea, or mutton or chicken broth, thickened with tapioca, arrowroot, sago, or corn flour. The mixture of soup with farinaceous food serves as a bland sheath to the canal; and, if absorption be not altogether extinct, will be valuable as nutriment. Beef tea, &c., may often be injected per anum, with advantage.

With reference to the tendency to secondary mischief in the next stage of reaction, it becomes necessary to endeavour to equalise the circulation, and stimulate the secretions; and I know of no drug that will do this as effectually as calomel. The moment for giving it must be carefully watched for, viz., when there are symptoms of revivals. From ten to twenty grains of calomel given then will act, I venture to think, far more beneficially than the system of pouring in the drug either in large or small doses throughout the stage of collapse, when, there being no absorption, one might as well introduce so much whitewash. A dose of castor oil must be given four hours afterwards; and repeated when necessary. The danger of salivation from giving large quantities of calomel is, I believe, much exaggerated; as was evidenced in my own practice in the days when I adopted this system. Some of the drug is no doubt passed off with the stools; and, until absorption returned, the remainder would be inert. But, then, all excess must be removed as soon as may be. Formerly, acting upon the suggestion of an experienced medical officer, I was in the habit of giving gr. xx. of calomel in collapse as soon as I saw the patient, and of following it up, at intervals of an hour, by gr. x. doses, till gr. c. had been taken; or, if the patient lived, till bile appeared in the stools. Since I commenced this plan, I have never had a case of secondary mischief—except one to be referred to presently—nor of salivation. As, however, I believe, that calomel given in collapse can do no good, except to prevent secondary mischief, I think that a much smaller quantity—say gr. xx.—given at the right moment, is all that is necessary. I am the more inclined to adopt this view, as medical officers, to whom I recommended the calomel plan, hesitating to give such heroic doses, have had results as satisfactory as my own with a fifth of the quantity.

Epidemics vary much in character, some being more severe than others: and it is generally observed that, in all, the first cases, as a rule, are less manageable than those which follow, the last cases being as amenable to treatment as the first are intractable. The death-rate varies, therefore, with the nature and the period of an epidemic. Speaking generally, however, taking one outbreak with another, and including the sporadic cases, it is calculated that about half, or rather more than half, of the cases brought under treatment die. During the twenty
months of 1865-66, when I was officiating as professor of medicine at the Medical College in Calcutta, and as one of the physicians to the Medical College Hospital, my first experience of the calomel in collapse plan of treatment was obtained. A ward in the hospital was set apart for cholera patients—an arrangement much to be deprecated, and yet no one amongst the attendants or the ordinary sick in contiguous wards was attacked with cholera—was (officially) divided into two halves. One half was assigned to the second physician, a most able man, and the other to myself. The death-rate on my colleague's side, where the treatment in the collapse stage consisted of stimulants and astringents, &c., but without calomel, varied, during the period I have mentioned, from 50 to 60 per cent; and there was an occasional case of uræmic poisoning; whereas, on my own side, it was uniformly from 15 to 20 per cent. less; and without, as before stated, any secondary complications whatever. There was no epidemic. Cholera-stricken patients were brought at intervals throughout the year—mostly, of course, in the cholera months, February, March, April, and May—chiefly from the shipping in the river, the back slums of the town, and the principal native quarter. There were Europeans, Eurasians, and natives of all ages; and every degree of health, from the strong and vigorous English sailor, who had come for the first time into Eastern climes, to the dissipated Eurasian, and feeble Bengalee. Nearly all were in a state of collapse, the distance in some instances being considerable, whilst in others much time had been unnecessarily wasted before the hospital was resorted to. In many Europeans and Eurasians the heart was fatty,—a condition likely enough to be found in those who, with diminished lung capacity, and living in an insanitary atmosphere, had abandoned themselves to the society of the Jezebels of Calcutta, and libations of impure rum. These, of course, had but a poor chance. My colleague and myself had each our fair share of the—speaking as to stamina—good, bad, and indifferent cases. They were equally distributed in the ward. It is true that in my capacity of Principal of the College I had quarters close at hand; and, so, had opportunities of seeing my patients several times during the day and night. But the same nurse (than whom I never saw a better) attended upon both sets of patients with equal zeal and attention. The ward could accommodate twelve patients, and, except in the cholera months, it was seldom full on either side. I cannot help thinking that the treatment influenced the death-rate; which, it will be remembered, was equally low in former years, when calomel was more freely prescribed. Surgeons of European regiments, as well as others to whom I have suggested the plan, have
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been so well pleased with the results that they intend to always adopt the practice. On referring to the older writers, it will be seen that, wherever venesection was resorted to in addition to the calomel, the results were less satisfactory than where it was omitted.

It is very doubtful how far friction is useful in the endeavour to restore warmth in collapse. It is the fashion to rub the extremities with powdered ginger, or mustard; but where the sources of animal heat are so seriously disordered at the fountain-head, it seems inconceivable, as the late Dr. Parkes observed, that such trifling measures should be of any service. They are undoubtedly useful, however, in relieving spasm. The surface of the body being so cold, external warmth seems to be indicated; but the patient is apt to throw off the bedclothes, and to want as much cool air and oxygen as he can get; nor do I believe that there is any harm in it, nor in his being even fanned if he likes. So far from it, cold affusion has in some cases afforded relief, and brought back the pulse to the wrist. This is not, however, to be recommended as a practice. Were I again to be attacked by cholera, and to fall into a state of collapse, I should wish to be lightly covered over in bed, and, except for spasms, not to be rubbed. A good constitution—not that mine is one—will do more to restore the circulation and animal heat than vigorous friction with the most powerful liniments. A mustard plaster over the abdomen, to be renewed when necessary, is considered useful for the burning at the epigastrium; and for diffusing warmth. I don't think I ever saw much benefit from it, but it can do no harm. One is applied, sometimes, over the kidneys, in the collapse stage, to stimulate their action. The distressing thirst is, as before observed, most pleasantly relieved by ice, which, as in the second stage, the sufferer may suck freely.

Amongst the various remedies that have been suggested for the treatment of cholera, and found to be useless, there are one or two that seem to be worthy of a further trial, e.g., saline injections, and oxygen gas. I am inclined to think that they have been resorted to only when other measures have failed, and when the patient was becoming almost moribund,—in two words “too late.” Both are likely to benefit the patient, and both have done so, but only temporarily. I think, too, that the hypodermic method might be resorted to more frequently, especially when the stomach is irritable. Its quicker action is a strong recommendation in its favour.

Reaction.—When reaction is complete, without complications, in a sound constitution, the natural warmth of the surface gradually returns; the face assumes its usual aspect; the voice
is restored; and the patient may fall into a quiet and refreshing sleep, waking up after a few hours as if nothing had happened! In some cases there may be slight pyrexia, in others, none; and the looseness may continue, though the stools will now contain bile; and urine will be voided. But reaction, in enfeebled constitutions, is often incomplete; and then either recovery is protracted, or death closes the scene in a few days. Occasionally, reaction is not uniform. It may appear in some parts of the system but not in others, thus complicating the treatment.

The death-rate in this the final stage of cholera is higher, I venture to think, than it need be. Where the collapse has been prolonged the amount of poison in the blood has become, as might be expected, proportionately increased. Dr. Thudichum found, for example, that, where this stage had extended over some time, the urea in the blood was more abundant. Complications are, consequently, apt to occur: uræmic poisoning in the brain (indicated by coma) associated with renal disease; dysentery, congestion, or inflammation, of the intestinal canal from the stomach to the rectum, or in some part of it; low inflammation of the lungs, or pleura, &c. The various organs should, therefore, be carefully examined as far as possible, as there may be deep-seated mischief with little or no evidence of its existence. This is especially so where the lungs are implicated. I was once greatly disappointed and distressed at the issue of a case that occurred in Calcutta. The patient was a Bhotiyah—a hill-man of Tartar build and feature—who had come to the city of palaces to trade. Attacked by cholera, he was brought in the collapse stage to the Calcutta Medical College Hospital. Being a man of sound constitution not given to drink, he recovered (as I thought) very satisfactorily. The convalescence seemed to be complete. When questioned as to his state, he replied that, except a little weakness, he felt perfectly well; and he looked it. But I did not examine his chest. There was no pain, no dyspepsia, no cough, no breath fætor, nothing, beyond a persistent debility, to show that there was anything wrong; yet he died with gangrene of the lungs. A low feverish state, which is sometimes called cholera-typhoid, is occasionally associated with one or other of these internal complications: sometimes, it exists alone without, apparently, any such connection, brought on by the poisoned blood. The temperature should always be taken when internal mischief is suspected. Relapses are not uncommon; and, as they are very apt to prove fatal, I am always anxious to anticipate their advent. Upon the same principle as that upon which I would act with regard to the prophylactic treatment of cholera—viz., giving quinine or other suitable anti-periodic tonic—I would act now, and invariably prescribe, whilst endeavouring
to eliminate the poison and its consequences, something to prevent the former from making good a second attack.

Cholera in Children.—As a rule, cholera does not occur in children, in India, under two years of age. When it does, the prostration is usually very rapid. If seen early in the attack, an older child is often benefited by treatment more quickly, ceteris paribus, than an adult. But relapses are, in my own experience, more common. Children often bear calomel better in all diseases than adults; and it answers well with them in cholera. To a child between two and four years of age 3 or 4 grains may be given with, if there be no collapse, 15 drops of *tinct. camph. comp.; the dose being repeated, if necessary, every hour up to three doses. To children under two years 4 drops of the following mixture, with a little sugar in a teaspoonful of water, will frequently suffice to arrest an attack, a second dose being sometimes, in severe cases, necessary an hour afterwards:

* Tinct. Opii, $\frac{3}{3}$ ss.
  Spirit Ether Sulph., $\frac{2}{3}$ ss.
  Olei Cinnamoni, m. xv.

The rest of the treatment must be conducted on general principles. Some practitioners object altogether to opium for young children, even in cholera.

CAUSES AND PATHOLOGY.

Neither the pathology nor the causes of cholera are clearly understood. Post mortem examinations reveal a certain morbid anatomy, varying with the stage in which the patient died, and length of time he had remained in it: but this is only the effect. It is presumed, and with good reason, that the sympathetic nerves are primarily affected. Whether the agent be a germ, a poison akin to malaria, or one sui generis, its *modus operandi* is, apparently, to paralyze the nerves of organic life, the brunt of the attack falling upon the sympathetic in the abdomen. There follows, consequently, dilatation of blood-vessels; from whence, all controlling power being for the time lost, the water of the blood is poured forth in various parts of the body, as evidenced by the œdema and serosity in some, but with especial abundance into the intestinal canal, with or without evacuation by the rectum. The exhalation from the skin is often very great, causing a clamminess that, particularly in the algid cases, is very characteristic. The fluid in the intestinal

* This is the treatment advocated by Twining in 1835, and I have never adopted any other.
canal consists, essentially, of water holding in solution salts, and a proteine compound; which last, however, is in no great quantity. It will be remembered that, when the sympathetic was divided (by an Italian physiologist) in the abdomen below the solar flexus, the operation was followed by a flow of fluid into the canal, resembling the discharge in cholera. This fact would seem to confirm the theory that the sympathetic is primarily affected in that disease; as may be inferred also from the fact of the organs, whose functional activity is maintained by innervations from the solar plexus (and pneumogastric), ceasing to perform those functions early in an attack of cholera, particularly in cases tending to collapse. Thus, the biliary and renal secretions, digestion, absorption, &c., are more or less in abeyance; the secretions of the mucous membrane of the stomach and intestines are altered, if not altogether arrested; and the water of the blood passes mechanically through it by mere exosmosis; respiration, though continued, is incomplete; and the blood is, consequently, imperfectly decarbonized. In proportion to the loss of water the remaining blood becomes thick and dark-coloured—like tar in some cases—and stagnates: there is more or less general congestion. One great cause of the mortality in cholera is this altered character of the blood. Salts, so essential for preserving the integrity of the vital fluid, are drained away with the water; and thus, in addition to the mere stagnation, there is danger to important organs—to those especially that are prone to, or that have been weakened by, previous disease—as well as to the system generally, from this now poisoned blood. Hence the importance of arresting the drainage as early as possible, and of not withholding water from the patient. Our object in endeavouring to arrest the discharges is not because they are exhausting, for recoveries are often most rapid when these have been most profuse, but to prevent the blood from becoming charged with poisonous material, e.g. with urea, &c. Cholera is not in itself, in the ordinary sense of the term, an exhausting disease, as will be understood by a reference to the chemical constitution of the discharges. This is further proved by what is not unfrequently seen in India. A patient, collapsed and pulseless to-day, may be walking about to-morrow. It must not, however, be supposed that, if a patient recovers, no traces of the attack will be left. Except in cases where the disease has been mild, or where it has not passed beyond the second stage, few come out of one altogether unscathed. If collapse has set in, the nature and extent of the recovery will very much depend upon its duration and other circumstances.

Looking upon cholera as a condition caused by paralysis of the nerves of organic life, I have always, by way of prophylaxis, given
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a nervine tonic, to be taken daily, morning and evening, for a few days, when cholera was present, or expected. The plan has been found to answer well in the case of troops who, taking it, have remained free whilst the disease was rife in the immediate neighbourhood. Quinine, when it agrees, is perhaps the best of all tonics; when it does not, arsenic or strychnine may answer the same purpose. A combination of two or three of these drugs is sometimes more efficacious than one alone. Where it can be borne, Easton’s syrup is excellent. In the same way I would always endeavour, in the stage of reaction, to anticipate a relapse. Since I commenced to adopt the practice I have usually prescribed quinine with, or without, a little calomel; and whilst as many cases as before have passed through my hands, I cannot call to mind a single case of relapse.

PROPAGATION, PREVENTION, AND HISTORY.

There are those who believe that India is the home of cholera. Undoubtedly it is one of its homes, but it has others. Given certain insanitary conditions in a suitable climate, and the worst types of zymotic disease probably may be developed. In one place it may be cholera, in another plague. Epidemics of either may indeed, at intervals of years, alternate with each other; as I have myself seen in the Hills of India. In a part of the North Eastern Himalayehs, known as Kumaon and Gurhwal, a disease called, locally, Mahamurree* or “great death”—identical with Egyptian plague—had for many years been a source of anxiety to Government, as the poor villagers would flee when it appeared, panic stricken, into the jungles; and so great was the mortality—sometimes as high as 75 per cent.—no revenue could be collected. Being one of two medical officers specially appointed to investigate the nature of Mahamurree, I had very favourable opportunities of studying the origin and process of this local plague, and of cholera, side by side as it were. The combination of insanitary conditions was complete. Small, ill-ventilated, thickly-peopled, dwellings; personal uncleanliness; filthy surroundings; villages located “towards the base of a mountainous slope well within the range of noxious emanations from the valley below;” a rocky subsoil impregnated with poisonous material from the plague-stricken corpses buried in it; an odour sui generis, not so much offensive as suggestive of disease; a damp, muggy, atmosphere; and the thermometer, in a grass hut, pointing to 105° Fahr. Under such conditions, highly favourable to the

* An account of this “Endemic plague in India,” will be found in the Transactions of the Epidemiological Society for 1880.
genesis of zymotic disease, what wonder if cholera or the plague did sometimes appear? So virulent was the poison generated, that the very rats succumbed. When they died, Mahamurree was sure to follow; but, in outbreaks of cholera, this warning was not given, so far as we knew, ever.

People alarm themselves very unnecessarily about the invasion of cholera; forgetting that there must be a receptive soil and a suitable temperature. A familiar illustration is seen in our gardens. The seed, sown in a flower-pot placed in one part of the garden where there is a due proportion of sun, comes up in due course; but a similar seed, sown in complete shade, does not germinate at all. If, however, the flower-pot containing it be transferred into the sunshine, it will do so readily. Cholera may have been marching up the country in India along the principal line of travel during the cholera months, July, August, and the first half, sometimes the whole, of September. As it encounters the cooler atmosphere of October, it stops. But the germs are there; and, lying quiescent so long as the cold and succeeding dry hot weather do not offer conditions favourable to their re-development—sometimes they are destroyed,—burst forth again into activity under the influence of heat and moisture, with other choleraic agencies, in, perhaps, the following July, or August. Then, one of two things may happen. The disease may march on, northwards; or return into India, either by the original route (which is not common), or by one at an acute angle with it, and so progress until again checked by cold or other causes. It cannot be too frequently insisted upon that, unless the place or the individual be in a state ready for the reception and nurture of the cholera germ, and the temperature be favourable, there will be no cholera. Water is an undoubted vehicle for its transmission, but, in the absence of conditions favourable to its development, the germ will not flourish. In the town and district of Eichstadt, on the Jura plateau, the inhabitants drink with impunity water from the gutters of the houses, known as sparrow water, laden as it is with organic matter; and they even prefer to this the black water of a central lake, fed though it be by the drainage from neighbouring dung heaps and liquid manure lying about in all directions; yet there is no sickness! The germs of epidemic and epizootic disease are occasionally conveyed from the valley of the Danube and the Altmühl river into the locality, but they never take root. Conditions favourable to the development of cholera are always more or less in existence in many Eastern towns—the disease is endemic at certain seasons in some—from whence it may or may not be conveyed to others equally prepared; or it may appear in all, simultaneously.

That cholera is propagated by human intercourse has been
abundantly demonstrated (also that it may be air-borne as well as water-borne); hence the propriety of keeping localities with a clean bill of health free of pilgrims, possibly or actually infected, who may be returning home from some gathering where the disease is rife. Sir Hugh Rose, whilst Commander-in-Chief in India, did good service to the army when he issued his celebrated marching instructions for troops affected by cholera. Vacating their barracks, which were at once to be purified, they were to break up into detached parties, and go under canvas, shifting the camp at short intervals, and marching across the line of traffic, and at right angles to the wind. When these orders were carefully carried out I have known the disease to cease at once.

Overcrowding, than which there is no more prolific source of disease, undoubtedly favours the development of cholera. The aggregation of numbers, even though there be no actual crowding, is, in any hot country, I believe, a more certain source of disease than we are, perhaps, inclined to admit. One passes through a well-ventilated European barrack during the day, when all is as it should be; but go through that same barrack at midnight, when it is more or less full of men, even though there be only twenty-five, and we are reminded of the lower deck of an outward-bound emigrant vessel in the tropics. It is a remarkable fact that, whilst of European soldiers in India, one in eleven are attacked—of whom one in nineteen die (this is the average)—the officers are comparatively exempt. The conditions of life are different. The officer can get away once a year to the hills, and burn off his extra carbon. The soldier cannot, so readily; but adds to it, on the contrary, by indulgence in alcohol and daily siestas. The officer at night sleeps in an atmosphere cool and free from the impurities expired and exhaled by his comrades; the soldier is surrounded by them. The Bengal Sepoys whose lines are open, and within which there is no latrine provision—their temple to Cloacina is in the jungle or plain—are attacked by cholera in the proportion of one in 105; yet when brought together under canvas or in boats, they suffer as severely as their European comrades: as do the Madrassee and Goorkha soldiers, who have their families with them, and for whom latrines are erected in their midst.

It has been, I think, very clearly ascertained that cholera, when it spreads by contagion, does so through the medium of the rice-water stools; and the world is much indebted to Dr. William Budd, for showing that the propagation of the disease in this way can be prevented. During the first epidemic at Bristol, in 1832, there were 626 deaths; 1,979 in that
Cholera.

of 1849; 430 in 1854—a great diminution, owing, probably, to improved sanitation;—but, in 1866, only 29. The first case in this last year was clearly imported; and before the alvine dejecta had time to do any harm they were at once disinfected; "the privy was drenched with the proper chemicals; the bed on which the sick man lay was destroyed; and the corpse, wrapped in the sheets and other coverlets on which death had taken place, was speedily fastened down in the coffin, imbedded, so to speak, in McDougall's powder." Other cases were similarly dealt with, and each was stamped out at its birth. The value of time in the management of cholera was, in Bristol, abundantly recognised; and the necessary measures were carried out thoroughly, and, therefore, effectively. The picture,* in London, of the progress of the disease, as drawn by the Registrar-General himself, was a very different one; but I have not space to do more than merely refer to it. In one cholera-stricken district alone there were 1,500 deaths in one week!

In India cholera breaks out in a native family residing in a military cantonment. The discovery is made by accident. On further inquiry it is ascertained that the "rice-water stools" have been placed in a shallow excavation (to be afterwards covered with earth), made for the purpose, in the small yard (called locally a compound) close to the house. A Cantonment Committee, which is supposed to have cognizance of such facts as these, meets every month; but what is done? House-to-house visitation is authorised; but, such is the unwillingness to interfere with the liberty of the subject, nothing practical—I speak from personal experience—is, I fear, accomplished. Meanwhile the soil continues to be infected, and from thence the water and the air, ready vehicles for its transmission, propagate the poison into the neighbouring barracks and elsewhere.

Contagious, in the strict sense of that term, cholera is not. And we should probably find that, in all the cases which look like it, the poison had been conveyed originally from the alvine dejecta. The immediate removal and disinfection, therefore, of bed-clothes and wearing apparel is a sine quâ non; and a mackintosh, or some kind of water-proof, sheeting should, if available, be placed under the patient. For purification of the air there is nothing so efficacious as sulphur. Where cholera has shown itself all drains and sewers, and every privy, as well as infected houses, should be treated with one or other of the disinfecting agents now so well known—carbolic acid, MacDougall's and

* See "Cholera and Disinfection, &c., &c.," by William Budd, M.D., F.R.S. W. C. Hemmons: St. Stephen's Avenue.
Cholera.

Calvert’s powders, sulphate of iron,* &c. Agents containing chlorine, Condy’s fluid, &c., are valuable for disinfecting linen, &c.; but the best disinfector is fire. The drinking-water in cholera localities should be avoided. Village well-water in India is especially suspicious. If it must be used, it should be boiled and filtered; or a few drops of Condy’s fluid may be added.

The existence of a disease is, in many cases, longer than its known history. It is generally supposed that cholera was practically unknown in India till 1817, when it appeared in an epidemic form at Jessore in the Gangetic Valley. But Dr. Paisley, of Madras, wrote about it more than forty years previously: and Curtis, in his “Diseases of India,” published in Edinburgh in 1807, referring to this publication, speaks of the disease as being epidemic amongst the troops, European and native. Girdlestone, again, writing on the spasmodic affections of India, speaks of it without recognising it as cholera; which has probably existed in Eastern countries for many generations, gathering strength from century to century from the increasing pollution of the soil and atmosphere, owing to the confirmed insanitary ways of the inhabitants. In the Sanscrit work—the Nidán—of Susruta, the Indian surgeon who flourished 3,000 years ago, the disease described as Vishuka was, doubtless, cholera. It was cholera, probably, that decimated the army of Auzungzeh. It prevailed near Calicut in 1503. It was described as being endemic in Goa, in 1563, by D’Orto, a Portuguese physician; and others. And it was, presumably, in existence in the Hooghly district, near Calcutta, according to the writings of Père Pagsein, in 1709.

If local conditions suffice to generate typhus, or, when these attain their maximum of intensity, the plague, why not cholera? That this disease originated spontaneously at Damietta, in Egypt, in June last, there is abundant evidence to show. Dr. Schaffey Bey proves it conclusively in his admirable report to the Egyptian Government. The town is at all times remarkable for its insanitary condition, and for the unhealthy mode of life of the inhabitants. The surroundings were worse this particular year than those which are often found in combination in India—the supposed cradle of cholera. An unusually hot sun developed the disease at Damietta, whence it was apparently conveyed by sick emigrants to towns more or less prepared to receive it—Port Said, Alexandria, Ismailia, and Suez, &c.

It has been accepted as a fact that cholera has always made its first appearance in England at a seaport; thus giving strength to the theory that the disease had been imported. I

* This is much used for disinfecting purposes in India; and its cheapness is greatly in its favour.
was very young in 1831-32, the years of the first great epidemic; but I can well recollect the circumstances connected with the few cases that occurred at Fakenham, in Norfolk, where my uncle, with whom I was living, was curate. The outbreak took place in a low ill-drained part of the town near the river—the Yare; and I distinctly remember my uncle mentioning to me the general opinion that this particular spot was just the kind of place where the cholera might be expected to appear. Fakenham is not many miles from the coast, with which there might have been communication; but I never heard a word about importation, either then or since; and I have always believed that the disease originated from local causes. And in all epidemics there are many such cases. That cholera may indeed be imported, as has happened before, is very possible; and although the visitations have diminished in severity since its first advent fifty years ago—owing it may be to improved habits of life and the diffusion of hygienic knowledge—there are still localities which would prove a suitable nidus for fostering the growth of the cholera germ; nay, where, _caeteris paribus_, the disease might be developed spontaneously. Now is the time for the Government to insist upon the spaces cleared under the operation of the Artisans' Dwelling Act, and by which "thousands upon thousands of families have been rendered homeless"—nothing having been done in many instances to supply the place of the tenements pulled down—being now occupied by suitable accommodation, with a sufficient amount of breathing room for each individual. Many of these "cleared spaces stand empty—a cemetery for cats, a last resting-place for worn-out boots and tea-kettles."* The hardships of the poor "families thus ousted have been increased a hundred fold."* Can we wonder that, having to put up with dirt and filth and putrefaction—with dripping walls and broken windows, with all the nameless abominations of an unsanitary hovel (because if they complain the landlord can turn them out at once and find dozens of people eager to take their places, for other shelter there is none), can we, I ask, wonder at these outcasts taking a drop of the alcoholic comfort (which will all too soon become a tyrant who will inveigle them within the "Devil's Chain"), and thus becoming fit subjects for the invasion of zymotic disease? Of what avail the most admirable regulations issued by the Local Government Board, the active energy displayed by health officers, the most stringent inquiry into presumably infected vessels, individuals, and goods, if the conditions here described be suffered to remain _in statu quo_? Then the delay in dealing—if action be taken at all—with foul localities

* "How the Poor Live." By George R. Sims and Frederick Barnard.
gives the enemy ample time to come and take his stand. It a
parish doctor submits a report to the guardians, they forward it to
the Vestry; who, in their turn, send the Inspector of Nuisances,
who goes, investigates, and then lays the case before the Medical
Officer of Health. Thus is time frittered away, and what need
only have been a spark becomes a conflagration. There is really
no reason whatever why, like the plague, leprosy, and some other
diseases, cholera should not be altogether excluded from this
country, and, like them, be to succeeding generations known
only in history.

THE BRITISH MEDICAL ASSOCIATION MEETING.

The fifty-first Annual Meeting of the British Medical Associa-
tion, recently held at Liverpool, was one of the most largely
attended annual meetings which this powerful association of
medical men has ever convened. We believe that more than
1,100 practitioners of medicine and surgery assembled in the
spacious and numerous rooms of the College, and for three days
discussed matters of great interest and moment both to the
profession and to the public.

At the temperance breakfast given to the members by the
National Temperance League there was an unusually large
gathering, upwards of 250 medical gentlemen having accepted
the League's invitation. The breakfast itself was worthy of the
excellent reputation of the Adelphi Hotel, where the guests
assembled, and was served in that prompt and quiet manner,
with the creature comforts hot and attractive, which conduces to
hilarity and digestion.

The speaking was of a high order. The appointed Chairman,
Mr. Arthur Pease, M.P., having been unavoidably prevented from
being present, his place was occupied by Mr. John Taylor, the
Chairman of the Committee of the League, who travelled through
the night from London in order to preside. His recommendation
of total abstinence was thoughtful, complete and persuasive, and
evidently made a deep impression on the company. Mr. Taylor's
testimony as to his long, healthful, and happy teetotal experience,
was so weighty and so emphatic in favour of total abstinence as
to carry conviction to every one present. His argument, too,
was from an extra-professional point of view; was urged with so
much deference to the educated and scientific standing of his
hearers; and was conceived in so admirable a spirit of fairness
and moderation as could not fail to win the assent and goodwill
of all.
The learned coroner for Liverpool, Mr. Clarke Aspinall, gave an eloquent and stirring address. His influential position in Liverpool, in his two-fold offices of coroner and justice of the peace, combined with his noble philanthropic career, his persistent endeavours to benefit the people, and his high personal character, would have secured him a warm welcome; but, in addition, in his capacity as coroner he has been brought into close contact with the medical men of Liverpool, and his relations with them have always been marked by true courtesy and cordiality. His recent public confession of total abstinence added to the interest of his appearance, and his marvellous flow of oratory quite carried away the entire audience. Though he did not specifically refer to his abstaining experience, Mr. Aspinall emphasized the result of his extended inquiries into the causes of sudden and unusual deaths in Liverpool as demonstrating that but for strong drink his labours as coroner would have been very light indeed.

Dr. Carter, of Liverpool, in a closely-reasoned and succinct speech, declared that if he had not always been an abstainer, the results of recent scientific research on the action of alcohol in retarding vital growth, of the remarkable experience of insurance companies showing the superior longevity of total abstainers over moderate drinkers, would have made him a teetotaller now.

Dr. Norman Kerr contributed the unlooked-for and welcome intelligence—on the authority of his friend, Dr. Sinclair Coghill, physician to the Institution—that at the National Consumption Hospital at Ventnor, with 100 beds, the administration of alcoholic liquor in the treatment of phthisis had been almost entirely discontinued. Dr. Coghill had, during the past year, prescribed not more than an average of five shillings worth of intoxicants per month.

Dr. Beverley, surgeon to the Norwich Hospital, spoke warmly on behalf of the Dalrymple Home for Inebriates, as a praiseworthy effort to treat habitual inebriety as a physical as well as a moral disease, and testified to the unquestionable advantage of the practice of temperance in his own case.

A vote of thanks to the Committee for their entertainment for both body and mind was proposed, in a graceful and humorous speech, by the editor of the Medical Press and Circular, Dr. J. A. Jacob, who spoke of the progress of temperance principles in the profession, and dwelt on the great importance of the resolutions passed on the previous day as to workhouse stimulants.

Remarks of interest also fell from Mr. Gray, of Cannock, and a medical gentleman who had been an abstainer for a long period of years. The breakfast was also honoured with the company of the Hon. Conrad Dillon, en route for the Western States of America.
The British Medical Association Meeting.

In the Public Medicine Section two temperance papers were taken as read, and a good abstract of them appeared in the newspapers. One was by Dr. Drysdale, contrasting the lower mortality of the total abstaining, with the higher mortality among the non-abstaining, insurers in several insurance companies from which he had obtained returns. The other paper was by Dr. Norman Kerr, who set forth the present position of the Habitual Drunkards Legislation movement, and announced the opening, in October, of the Dalrymple Home for Inebriates, as a public and straightforward attempt to take advantage of the provisions of the Habitual Drunkards Act of 1879.

There were other allusions in the course of the meetings to our principles; but perhaps the main feature, from a temperance point of view, of the whole proceedings was the remarkable discussion on Workhouse Stimulants at the Annual Conference of the Poor Law Medical Officers' Association. Up till that Conference only a few individual parochial medical officers had taken up the subject; so that the announcement that before this influential body of doctors a strong resolution was to be laid by one of their number attracted a large and representative audience, among whom were several medical officers and chairmen of Boards of Guardians.

Dr. Norman Kerr proposed a series of resolutions rejoicing at the diminished consumption of alcoholic drink in many workhouses; condemning the giving of strong drink to paupers not sick; and approving of the substitution of a money payment for the beer allowance to officials. There was, happily, a spirited opposition to the resolutions, which were therefore thoroughly discussed. So great was the interest evoked, that the meeting adjourned to another part of the College when the room they were in had to be given up to one of the sections of the British Medical Association. Dr. Kerr's well-known contention, that the withdrawal of intoxicants from the dietary and from paupers not sick would greatly promote the health and comfort of the poor themselves, met with striking confirmation from Dr. Robertson, physician to the largest workhouse in the kingdom, the Liverpool Workhouse Fever Hospital. Dr. Robertson also pointed to the aged and bedridden inmates who received no liquor, and who did not "fret or die," as a guardian at the meeting said they did, on the discontinuance of their beer or stout.

Eventually, after a most exhaustive discussion, during which the subject was thoroughly threshed out, the resolution was carried all but unanimously, only three hands being held up against it. As the proceedings were reported at great length in all the Liverpool newspapers, and long editorial articles also appeared; as the Press throughout the country prominently
recorded the event; and as the resolution has been sent to the President of the Local Government Board, Sir Charles Dilke; much increased attention has been drawn to the use of alcoholic liquors in the workhouses of England. Several Boards of Guardians have taken a fresh departure in consequence; and if only our temperance friends will proceed on the impregnable lines laid down by the mover of the Liverpool resolutions, the production of a copy of these resolutions, with a report of the discussion, to Boards of Guardians in temperate and prudent language, cannot but result in an early reduction of the amount of strong drink consumed in our parochial institutions to an extent even much greater than has already been happily achieved.

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Miscellaneous Communications.

THE NATIONAL TEMPERANCE LEAGUE AND THE BRITISH MEDICAL ASSOCIATION.

On Friday morning, 3rd August, upwards of 250 members of the British Medical Association, which had been holding its annual meeting in Liverpool during the week, breakfasted at the Adelphi Hotel, in that city, on the invitation of the President and Committee of the National Temperance League. It had been announced that Mr. Arthur Pease, M.P., one of the vice-presidents of the League, would preside, but the following letter explaining his absence was read by Mr. Robert Rae, secretary:

"2, Princes Gardens,
"South Kensington, S.W.,
"July 30, 1883.

"My dear Sir,—It is a great disappointment to have to write that I shall not be able to be with you at Liverpool on the morning of the 3rd. Since I promised to be at the breakfast the opening of a public exhibition at Whitby has been fixed for this week, and my duty to my constituents constrains me to be there. I should have much liked to hear the addresses of the medical gentlemen who will speak after the breakfast. The proper understanding of the influence of alcohol on the human system and its value as a remedial agent is of the highest importance. How many a melancholy catastrophe would have been avoided if some other medicine had been prescribed in place of spirits, wine, or beer.

"Believe me,
"Yours faithfully,
"ARTHUR PEASE.

"Robert Rae, Esq."

In the absence of Mr. Pease, the chair was taken by Mr. John Taylor, chairman of the committee, who, the secretary stated, had travelled during the night from London in order to be present; and amongst those present were Mrs. Garrett Anderson, the Hon. Conrad Dillon, M.L.S.B., Mr. Clarke Aspinall, J.P. (coroner of Liverpool), &c. After breakfast,

The CHAIRMAN said: Mrs. Garrett Anderson and Gentlemen,—I exceedingly regret that I have to take the place of the venerable president of the National Temperance League—whose presence you have always enjoyed at these meetings, and who has rarely
been absent from them, but whom a business engagement has prevented being here to-day, though I can say, what I am sure you will be glad to hear, that he was in London last week seeming but little advanced in age since you saw him at Worcester. It is also a disappointment to me that I have to take the place of my distinguished friend Mr. Pease. It is always difficult for anyone to meet an audience suffering under the disappointment of not meeting those whom they expected to meet, and it has been my fate on many occasions when I have had to take a position so honourable as the one I occupy this morning, to take it because a more honourable person than myself had failed to put in an appearance. But, though I have not attained to the years of our venerable president, I am no novice in this great temperance cause. Personally, my years of abstinence cover more than four out of the five decades during which the temperance cause has had its existence, and especially during the last thirty-five years I have taken an active part in the movement, and that may be some justification for occupying my present position. On behalf of the National Temperance League, I beg to thank you most heartily for your acceptance of our invitation, and for your presence here this morning. We have had to acknowledge on many occasions the kindness and courtesy with which the medical profession have met us in these discussions. It is now about twenty-one years since we first gathered together in London some twenty or twenty-four medical gentlemen to discuss with our committee this great and important matter, and it is, I think, some sixteen or seventeen years that the members of this Association have honoured us by meeting us at breakfast at their annual meetings to discuss it. We are fully aware that in the short time allowed us there is no opportunity for any profound discussion. Still, we feel it is of very great importance that when you meet in conference this subject of temperance should be brought before you. We look upon this gathering rather in the light of a demonstration provocative of thought and inquiry. Our great duty and privilege has been to gather up facts and experience in this matter, and it is marvellous how the experience of the present day is continually tending to fortify the practice of total abstinence from all intoxicating liquors, whether in health or disease, by the man who has to work with his hand, or the man who has to work with his brain. And the evidence which we are gathering in our great temperance insurance office is furnishing a marvellous number of facts and incidents all tending to show the value of total abstinence from all intoxicating liquors. There is one point which it may be worth while to consider. The great business of medical men is to look upon disease and to study the actual effect of disease, but still I presume it is also part of your duty to study the development of a high state of health. Perhaps the time may come when we may revert to the ancient custom of the Celestial Empire, and pay fees for health rather than for treatment during sickness. Sir Henry Thompson, some years ago, in writing upon this question, said:—"Don't take these things—wine, &c.—with any idea that they are doing you good. They can only be regarded as a luxury, and," he added, "a luxury that must be paid for." Now it has been a question with me for some time, judging from my own personal experience, and the experience of those amongst whom I live and move on both sides, whether there is any real luxury either in the use of alcohol or in any of the narcotics which people take to administer to the pleasures of life. It is a matter for consideration whether the use of alcohol and whether the moderate indulgence in tobacco really add to the pleasure and enjoyment of life. My belief is that life, our physical life, is more enjoyable without the use of any of these things. It used to be considered a great charge against us that we wanted to "rob the poor man of his beer"—and when we add to this crime that of robbing a poor fellow of his cigar we are looked upon as double offenders.
against what some people consider the enjoyments of life. My own idea is that our physical life is more truly enjoyable the more purely we live and the more thoroughly we cut off the use of all these things. I put this forward as somewhat of my own experience. I believe God intended that our life of itself should be an enjoyment to us. All the animals enjoy their life. I believe that some people's idea of the enjoyment of life is only the enjoyment of entertainments and social life. Mere living they never look upon as an enjoyment. But our animal life ought to be a pure pleasure. I believe that is God's design. We ought to thank Him every morning when we rise healthy and strong for the very existence we enjoy. I do so. My life is an enjoyment to me, and I believe it is very much owing to my having in early life cut off all those things which many people think so essential to the enjoyment of life. Brevity must be the rule on these occasions, and therefore I will not add more to what I have said. The first gentleman I am going to ask to speak—and I am asking him at this moment because he has very shortly to leave—is Dr. Carter, of Liverpool.

Dr. William Carter said: In the two or three words I will say to you, I want, in the first place, to vindicate the medical profession against the charge which is still brought against them of having encouraged habits of intemperance. I believe that the very fact that medical men have recommended alcohol rather largely in disease up to nearly the present time is a most encouraging ground for hoping that they will cease to recommend it so largely in the future, for this reason: that recommendation was founded on evidence which I think was utterly incapable of being overturned at the time. It was impossible, I believe, for anybody to read the evidence set before us by Graves and Todd — impossible for anybody of impartial mind, who tried to yield to evidence apart from prejudice, to read what they said without firmly believing that the administration of alcohol in the way they suggested, after the period of depletion had begun to pass away, would be advantageous. In that I see great encouragement. It shows that a prejudice, long entertained and most firmly believed in even by the heads of our profession, namely, that fever and other affections required depletion, was at once thrown overboard in the light of what appeared to them to be good evidence; and if we can present to them the same clear evidence that the use of alcohol as a daily dietetic is bad, I believe the whole profession will, in the same fair-minded way, yield, and recommend total abstinence as strongly as they formerly did the rather large use of alcohol in disease. I don't know how far I can regard my own faith as a faith apart from prejudice, because all my life I have been a teetotaler; but I believe that if I had not been, I should have been so convinced by the evidence placed before me as to have been driven to be a teetotaler, on that principle of self-love which all of us ought to be actuated by. The evidence I regard, first, as satisfactory is the result of the experiment, which has only been possible for a few years, of comparing the mortality of a large section of men who don't indulge in alcohol with a larger section, of about equal apparent health and equal in circumstances, who do indulge—not in a large, but in what is generally considered as a moderate and even healthful amount of alcohol daily. That experiment has been tried for some time, and the result is now before me. In comparing the returns of the Temperance Provident Institution with those of similar associations, the conclusion is as inevitable as any proposition not actually demonstrable can be. We have on the one hand a very large section of men in fair average health, who are evidently industrious and careful and provident, or they would not think of insuring their lives at all, and we know that if they are on the side of the moderate drinkers, they die at a 'good deal earlier age than the men apparently in similar conditions
of health, who, on the other hand, take nothing. That is a very startling fact. You have this as the result of experience, which individuals cannot apply to themselves. The man who takes a little says, 'I can't do without it,' and when disease comes he dies of something apart from alcohol, and no one thinks that alcohol has anything to do with his death; but when you take large numbers you find that these men do die earlier than those who take none. I think there is an experiment tending to prove this, which every man, if he pleases, can try for himself. I have been very much interested of late with this amongst other experiments. We all of us, I think, of late years, since Professor Allman's address at Belfast, believe in the fundamental unity of the cellular processes in animal and vegetable life. We believe that the minute changes in the cells of the plant minister to its life as to our own. If it can be proved, therefore, that a minute quantity of alcohol given to the cells of plants dwarfs their growth, interferes with their nutrition, and prevents germination—although by the microscope, or any test we could apply, short of watching the growth, we could not discover the injurious change—if we can show that this dwarving does actually take place, we shall have a strong argument for thinking that a similar amount of alcohol taken by ourselves will similarly affect our own cellular tissues and prevent our resisting the inroads of disease when it comes. If you plant a few grains of mustard-seed and water the earth, or cotton wool, or whatever you like to grow it on (for it will grow on anything) with an extremely diluted amount of alcohol—say one in 800, or one in 1,600—and then plant beside them a similar number and water with pure water, you will find if you watch their growth that the first, if they germinate at all, will be dwarfed and altogether unhealthy, whereas the others will pursue their natural course. That is a strong indication of the possible similarity of change which takes place in our own cells entirely undemonstrable; and the man who has been treating his cells in the same manner as the first set of seeds was treated will have his outworks so weakened that when disease comes across him, unable to resist the attack, he dies early. His death cannot fairly be put down to alcohol, but this and other experiments will throw a ray of light on the startling fact brought out by the Temperance Provident Institution that these men actually do, somehow or other, die early. I commend this to you, and perhaps it may have the same effect in guiding your belief as it seems to me to have had in influencing my own.

Mr. Clarke Aspinall, who was received with applause, said: Mr. Chairman, Mrs. Anderson, and gentlemen, I owe you an explanation. I hate platitudes and stupid apologies, which are often untruthful, but I do owe you an explanation. I am not unmindful of the fact that you represent a large portion of the intellect of your profession, and that your profession represents a very large portion of the intellect of this city, and therefore my apology is that I am in no sense really responsible for an address this morning of an instructive character, nor am I in the slightest degree competent to give it. Some weeks—I should have thought it was months—ago, I was honoured by a visit from Mr. Rae, who, I think, found me on the magisterial bench, and something then transpired in the way of conversation in reference to a gathering of this kind, and that seems to have involved me in the honour, and privilege, and responsibility, without any further intimation, of being on the invitation cards as one either of the attractions or the deterrents of this gathering. Now, my position is probably made less satisfactory to me and to you by the fact that, Mr. Pease not being here, an undue prominence again attaches itself to one who would have been happier had it been otherwise arranged. But, gentlemen, let me say that my official life—never mind my own individual life, or character, or habits—does, I think, qualify me to speak in a friendly, conversational way, even before me-
As medical men, in regard to this matter of the consumption of alcohol. There are, of course, coroners and coroners. I mean that they are all equally intelligent; but they are not all placed in positions of equal responsibility; and my responsibilities are much graver than many people, I dare say, imagine. And why? Because the average man in any department of work has to mind his own affairs, and he cannot think very much of what is going on in anybody's world but his own. But my responsibilities I believe to be much graver, and at times much more depressing, than any of my fellow-citizens have any knowledge of. I am speaking off book, but I believe I hold not very many fewer than 300 inquests in the year, and I also know that very nearly that number of cases are passed by me—and properly, I hope, passed by me—after being referred to me by members of the profession and others; and no living man can send to their last resting place nearly 1,600 fellow-citizens of different ranks and degrees without a sense of very grave responsibility, look at it as you may. Now, happily—thank God for that—I am not a person easily depressed, but I think it due to myself to say that although I have held my present office for just sixteen years within a week, I hope I have all the susceptibilities I ever had, and all the sympathies I ever had—not in the smallest degree dulled or interfered with by my contact with human suffering. On the contrary, I think sympathy grows in proportion as you exercise it, and no men know that better than the medical men of England. Last evening I was a privileged guest at your magnificent demonstration in the Philharmonic Hall, and I don't know that I ever accepted an invitation with more pleasure, because I had naturally — it would be very strange if it were not so—a very great liking for the society, and a very great appreciation of the friendship of gentlemen of your honourable and highly useful profession. Liverpool must be the better — all classes in Liverpool must be the better— for your visit to our city. I only wish our turn may come again reasonably soon. It will be to our advantage, whatever it may be in reference to your own. But hear now what I have to say. I just wish to say this—that, whether you are abstainers or whether you are not, you are all most anxious, I think — indeed I am certain—to spend your time and your talents, as medical men do to a degree, which, I believe, scarcely applies to any other profession, in the interests of our common humanity. I often wonder whether those whose accretions are very rapid in commerce and in other pursuits—whether those who, in their profession, come upon all the rank and dignity and honours of the law, sufficiently realise what a surgeon's life is from the day that he becomes an apprentice to the day that he lays himself down to his well-deserved rest. I doubt it. Society has a trick, and individuals, especially prosperous individuals, have the same trick which is said to appertain to a large bird, known by the name of the ostrich. The ostrich buries its head in the sand whenever there is a prospect of seeing anything disagreeable or inconvenient. If it does not act in that cowardly, and I should think, not very sensible fashion, society, which is a well-meaning corporation, with a great deal of benevolence in it, and a certain amount of selfishness, does not like to be bothered with social questions. And individuals don't like it much. They don't mind giving a trifle to ameliorate the condition of the masses, but they don't like altogether taking any active personal part in the process of amelioration. So I thank God, and take courage from the bottom of my heart, I thank God—that is no platitude—when I find myself confronted here this morning by this large number of intelligent gentlemen, members of the profession to which I have made more than one reference. I am confident that if you take our words kindly on all occasions, and if we, in our turn, take your weighty words kindly, as I hope we shall on all occasions, society must benefit thereby. But let me proceed, If you could eliminate excessive drinking—we will talk about that first—if you
could eliminate excessive drinking—the consumption of an undue amount of alcohol, whatever that quantity may be—from all ranks of our English people, the judges—it is an old story—would have little occupation in the criminal courts, and the like of me would be practically out of office altogether. My position is somewhat peculiar. I sit every morning—not now and again, but every morning—trying prisoners, and they are pleased to speak of me as the magistrate who presides—which is perfectly true—in what is called the Drunkards' Court. That I have been doing for a large number of years. I know men that come up; I know women that come up; I know the young people—I had well-nigh said the children—that come up; and some of them I know, aye, as familiarly almost as I know members of my own household, because of their repeated appearances. I know that the men belong, more or less, to "all sorts and conditions of men;" I know that the women are not all people necessarily of particularly humble origin. Neither are they all single. There are many of them married women. And I know that the young people of both sexes who come before me would very likely not come as and when they do if their homes and their surroundings were better than they are. Well, then, gentlemen, later in the day—I sit ordinarily five days in the week, sometimes every day in the week—holding inquests; and whilst, of course, a large number of those cases are really accidents—painful, but pure and simple accidents—still a very grave proportion of these inquiries would never come my way but for the excessive use of alcohol. And then, twice a week, save when the holidays are on—and one is almost disposed to wish they were on oftener than they are—I take School Board cases; and I think it only right to say that the magistrates of Liverpool are of one mind in their determination to help the School Board in the administration of the Education Act. Now, my School Board experience—I mean my magisterial experience in connection with School Board cases—is not without interest to you. The women, of course, come usually, in answer to the summons. The bread-winner you don't expect. He should be working, and probably often is so engaged. But it is idle to say that the women who come up represent, as a rule, although they do sometimes, sober and well-ordered homes. On the contrary, there again the obstacle crops up—drink, drunk, everlasting drink. Now you know, gentlemen, I feel that, in speaking to you, I cannot speak with the comfort that I should if you were not members of your honourable profession, because I am really speaking to gentlemen who have so much special knowledge in regard to the very subject on which I am dilating; but I naturally am the common centre of a population of 600,000 human beings, a common centre to which every medical man comes who has a case of difficulty, which he does not like to pass on his own responsibility without consulting me; and I venture to say this in the presence of you all, and in the presence of a great many Liverpool friends whom I am glad to see here—that no official in this country, from one end of it to the other, can have served sixteen years with so much continuous ready help from the medical profession as I have always had. You don't require telling what your responsibilities are. You don't require telling what grave wrongs might occur in our land of liberty, but for the high-minded tone of the medical profession, who constantly stand, so to speak, upon the brink of the grave, certifying, or not certifying, as they may see fit; but I venture to say that in Liverpool, among the young professional men, as well as among the older ones, we are favoured with a very honourable and a very high-minded body of gentlemen in whom I for one have every reason to have thoroughly abundant confidence. They come to me constantly. If there is a doubt, they feel that it is rather my business to take responsibility than theirs, and they wisely don't assume functions which they rightly apprehend to appertain to somebody else; but I think they will all bear me out in saying
that I try to the utmost of my ability, in court and out of court, to return to them all the courtesy which they give to me in such ungrudging quantity; and it is a very comforting thing for me to feel that with no special aptitude, not claiming any, not possessing any, but having, I trust, the one sense without which all others would be absolutely useless—common sense—I have had to do with many professional brethren—for they are professional brethren in a sense, though I am in the law and they are in surgery and medicine—for all these years without one single bit of unpleasantness of any kind, sort or description. Just one further remark. Don't you, gentlemen, know quite well, you know a great deal which you are neither bound to tell nor would be justified in telling to the outer world, but don't you, gentlemen, know quite well—and why should not society know it through me, if it is not convenient that they should know it through any other source—that the mortality of England, which is put down to this cause, that cause, and the other cause, would be very much less than it is if, as I said a little while ago, you could eliminate the habit of excessive drinking from all ranks of society? Of course, so and so died of bronchitis. Who ever said that he didn't? Whoever said she didn't?—for a good many shes do it. But if the medical man, who rightly certifies a death as being practically what the, world would call a natural one, were put through his facings on a stern and rigid cross-examination, would he not be obliged to yield to this pertinent question: "Has this man, or has this woman, not practically brought himself or herself to a premature grave because, not necessarily of drunkenness, but because of alcohol: because of everlasting nipping and soaking and drinking, under the idea that anything that was not drunkenness meant strict sobriety? You know, gentlemen, you are quite aware, that if a man, whatever his position in life, is really a moderate, sober-minded, thoughtful, religiously-disposed person, he does not ordina-

rily require what is called a "pick-me-up" after a dinner party; but a good many people who pass current in the world do require them and do take them, and for a time are improved and comforted thereby. Now, my friends, I will say that Liverpool is the centre of my chiefest affections. I was born here. I hope I shall end my days here. There is no spot anywhere, naturally, to which I am so much attached, and no man ever heard me speak ill of Liverpool, or of the people in it. Still, I hope I shall always be honest, and I venture to think, as an old member of our Liverpool Corporation—though I am not a member of it now—that there is a vast deal for the municipal authorities to do, which it is quite within their scope and power to do, in order to raise the level of Liverpool in the matter of mortality. You, of course, will naturally be taken to the river, if you have not already been taken; you will be shown St. George's Hall, I am certain of that; the Town Hall, the Art Gallery, and so forth. And why not? It is a conventional usage to show distinguished visitors all that we are most proud of. But if I had to regulate matters, I would add on to the list of places to be visited, not necessarily those of which we are the most proud, but some of those in which we ought to be the most interested; and I would take you to some of our narrow streets, with their courts, with their back to back so-called dwellings, and then I would ask you whether we as a community are quite as active as we ought to be in the direct and definite interests of the masses of our industrial population upon whom—you cannot deny it, and you would not wish to deny it—the prosperity, and the wealth, and the grandeur of this great city of ours very largely depend. I am in a certain sense not old, but I am quite conscious of the fact that I am not young. No man in his fifty-sixth year can look forward to fifty-six more years, and every day I have an increasing earnestness coming over me to try and do something practical, something definite, something real, something that is likely to produce results for the
masses of the people, who, I believe, are as loyal to the throne, and as patriotic to their country as we are, or any other educated body of gentlemen in the land. Now, gentlemen, my last word—and it ought to have been spoken some little time ago. It is not in the nature of things, and therefore we don’t complain, for the lawyer to go to the courts and the alleys; it is not in the nature of the shipowner to do it—I mean as part of his daily functions. We have many philanthropists of all ranks, but it is not in the nature of the occupations of many of us to go in and out amongst houses of our working people; but what we want to impress upon the wealthy men of England, upon whom a vast responsibility rests, is that a profession like yours is entitled, as a matter of right and justice, to the highest place in our social arrangements, because your studies, and the fruits of your studies, and your lives, are dedicated to the well-being of all classes of the community, and especially of the poorer classes, with whom you, in your earlier, and in your later days too, cheerfully and willingly, and ungrudgingly, have a constant and, as far as money is concerned, an unremitting contact. I wish you gentlemen asserted yourselves sometimes more than you do in our municipalities. I don’t know that a self-asserting man is ordinarily, perhaps, a very useful man. Still, I do wish you could find time still to the municipal government to a larger extent than you do. I should like to see many of the chairs of our chief magistrates, occasionally at any rate, occupied by leading medical men. And why not? It is a grand profession; it is a self-denying profession; it is a profession where Christian life is constantly being exhibited; and if you only put yourselves in the way of receiving public tributes of approval and commendation, the public are quite alive to your deserts. I am abundantly satisfied that with the medical profession of England rests a very large amount of the future sanitary and social reform of this country. You, gentlemen, have only to exercise your benevolent influence aright, and good must come of it. You can get where others cannot get. After the clergyman, or minister of other denominations than the Church, who stands in such favour—and we are not at all jealous—with the real head of the family as the family doctor? I don’t know any man who is so popular in an average English home as the family medical man. Therefore, you have a power, an influence with men, and women too, in the middle ranks of life which none of us possess in the same degree; and I am confident, from what I know of you, that you have the will, as well as the way, to do the best you can for society at large. I married a doctor’s daughter, and therefore, from early life, I had to do with surgery and dispensing and the like. I don’t profess to be at all qualified either to operate or to dispense, but I do profess to have a knowledge—and that is what I want to emphasize—of what a life of hard work and grave responsibility, and unremitting Christian labour the average surgeon’s life is, and any amount of social exaltation, any amount of royal recognition, any amount of honour which can be put upon you has a double purpose. It rewards virtue, and it adds dignity to the power conferring it.

Dr. Norman Kerr, having been next called upon by the Chairman, said: Let me say a few words not platitude. First of all, with regard to the treatment of disease. On the authority of my old and esteemed friend, the physician of the Ventnor Consumption Hospital, with 100 beds, I am in a position to say to-day that, in that large institution, alcoholic liquors have been practically abandoned in the treatment of phthisis. During the last three months there has not been an average of more than 5s. a month spent there in intoxicating liquors used as a medicine. In the large workhouse of Marylebone, with 1,500 inmates, old and young, feeble and strong, there was not sixpence spent in intoxicating liquors in 1882, but in the previous year there was spent nearly £2,000. With regard to
the habitual drunkard question, let me ask you to support the movement for a law which shall take away the so-called liberty of the diseased drunkard in order to redeem him from his slavery, and give him a chance once more of adorning the community to whom his services are lost through disease, and not through immorality or crime. I say this more especially, because there are Christian men and women and total abstainers in this country who think that, because a man or woman drinks, he or she is a worse man or woman than others, whereas there are men as good as the Coroner of Liverpool, and women as good as Mrs. Garrett Anderson, or any other woman, who are just as much suffering from disease as I am when I have an attack of gout, to which I have an hereditary predisposition. We medical men should come forward and show our fellow-countrymen of the Christian Church that hitherto they have proceeded on the wrong lines, and that if the soul of man is to be considered, his body, too, must be taken into account. Is it not our duty, after the most Christian and pathetic address we have heard, to ask ourselves, “Can I be a better physician and better fulfil the high office of a healer of the body and a restorer of the mind, the brain power, of man by being a total abstainer or continuing, as I am, a moderate drinker?” Let me beseech you to consider that question in the highest light, as you value the cause of humanity and religion.

The Chairman: I will now ask Dr. Beverley, surgeon to the Norwich Hospital, to say a few words.

Dr. Beverley: Mr. Chairman, I presume you have asked me to say a few words on account of my connection with an old city in eastern Anglia whence sprang, virtually, the Habitual Drunkards Act. Yesterday, in the Public Health section, I was able to say that one of the results of the visit of the British Medical Association to our old city has been the erection of one of the best provincial hospitals which I believe England at the present time possesses. A member of the profession in Norwich, the late Mr. Donald Dalrymple, took, as you are aware, a very practical interest in the question of the management of the habitual drunkard, and to the generosity of his widow, Mrs. Dalrymple, of Thorpe, near Norwich, a promoter of the Dalrymple Home, now shortly to be opened at Rickmansworth, and I need scarcely say to the active work and untiring energy of Dr. Norman Kerr, much of the success of the movement may be attributed. How many of us have found a difficulty with respect to our patients who are habitual drunkards? Just lately a gentleman who came under that category consulted me as to a fitting place to which he could retire for a certain number of months for the cure of what he knew to be his malady. I communicated with Mrs. Dalrymple, and found from her that the Dalrymple Home for Inebriates, under the Habitual Drunkards Act, would be opened at Rickmansworth in October. In the meantime this gentleman has gone to an institution, and, although he has been there for only a month, he has already written to me to say what great advantage he had derived from being in a place where he was absolutely under control, so far as drink was concerned. How much good will result from the opening of the Dalrymple Home I leave it to you to imagine, and, I hope, to experience in your own practice. One word as to individual experience on this question. We have heard a great deal as to generalities. I hope there are some present—indeed, I know there are—who can testify in their own persons as to the value of abstaining—some totally; some, like myself, practically so—from the use of stimulants during their daily life. A morning or two ago, when seated in my hotel in Liverpool, I saw opposite to me a gentleman who is at present—I hope he will pardon me for saying so—a venerable gentleman, who finding where I came from, told me that he was a native of my own county; that he had in early life settled at Birkenhead; that when he commenced to practise Birkenhead contained but
1,000 inhabitants; and that when he left off practising it contained, I think he said, about 80,000 inhabitants. And he said that he had enjoyed for many years past the most perfect health, and he believed it to be entirely owing to the fact that for the past twenty-five years he had entirely abstained from alcoholic drinks. This, indeed, was a great encouragement to me, a comparatively young man, who was enabled to put my experience of five years only against his matured experience of twenty-five years. I can only tell you that, engaged in a tolerably active practice of almost incessant work, I have been able to do the past five years' work with much greater freedom from a tired feeling at the end of the day than I experienced during the early part of my professional labours. I now work ten times harder than I did ten years ago, and I seldom feel fatigued at the end of the day, and my friends tell me—and I believe you will probably agree with them—that I enjoy a very fair state of health. I can only recommend the younger members of the profession to give total abstinence a fair trial.

Dr. F. J. Gray said there was undoubtedly great benefit to be derived from a long residence in such institutions as the Dalrymple Home. There were at present great trammels in the Habitual Drunkards Act, which he hoped might, by the aid of the British Medical Association, be removed. For instance, a patient had to go before two justices, accompanied by two friends, who must swear that he was an habitual drunkard. The latter proviso was quite necessary; but the difficulty was in the requirement of two justices. They might often take a man to the house of one justice when, as the saying was, "the maggot bit him," when he would be willing to place himself under restraint, but perhaps twenty-four hours afterwards he would not do so. This was more particularly the case with females. He had had scores and scores of applications on behalf of drunken wives. He had one the previous week from Ireland, with respect to a lady of thirty, who had had six or eight children, and who, for the last ten years, had been an habitual drunkard; and at the last moment he had received a telegram: "My wife will not now leave home." This was the case over and over again with females. He was quite convinced that a residence in a retreat for six, nine, or twelve months, according to the character of the case, would, as a rule give permanent relief to the patient; and the great reason why patients should place themselves under the Act was that, as all medical men knew, patients when they got temporary relief considered themselves cured, whereas it was then that permanent residence was of great advantage to them.

Dr. Jacob (Dublin), in moving a vote of thanks to the President and Committee of the National Temperance League for their entertainment, said he came from a country where there was ample scope for observation on the matters that occupied the attention of the League. It was a country which prided itself on the production of the best poison, and also on a very liberal consumption of the article. He could not but admire the steadiness, perseverance and energy with which the executive of the League went forward to their object. Year after year they continued at it, and avowed their intention to keep at it; and he would encourage them in this great work, because he believed that of late years, chiefly and principally owing to the operations of the League, an enormous social reform had been effected. A change had come over the spirit of the dream of the artisan population and the lower classes throughout the country, and there was now a condition of things which did not exist some few years ago, a substantial proportion of the masses of the country being either total abstainers or practically so. During the last three or four weeks he had had the opportunity of conversation with representatives of and partners in probably the largest wine concern in the world, and probably the largest porter concern in the world, and the lugubrious tone in which they
spoke of their trade and of the probability that the palmy days of fortune-making by the sale of liquor had passed away, would have been most gratifying to the President and the League if they could only have heard it. He was told, with many groans, that the elder sons of these houses must be expected to work for their living. Without entering at all on the medical and scientific aspect of the question he must be allowed to say that he thought that one of the first things the profession had to do was to try and eradicate from the public mind that most preposterous of delusions, that alcoholic drink was necessary, that it was nourishment. If people liked to take it as a comfort and a pleasure he did not object, but let them not take it under the delusion that it was necessary to give them a healthy life. There was abundant evidence that it was not a necessity of that sort, and the sooner that delusion was got out of the public mind the better. With reference to the admirable paper brought by Dr. Norman Kerr before the Association in regard to stimulants in workhouses, he (Dr. Jacob), was one of those who first directed attention to this important subject, because in Ireland they were cursed with a system of feeding able-bodied paupers in workhouses on liquor. If an able-bodied pauper did the palriest piece of service in the workhouse, he must be paid, not in money or privileges, but in a dram. The drinking in the workhouses was enormous, and the profession had to be educated, he must say from his own experience, to the necessity of making itself a little unpopular in that class of workhouses by withdrawing from them by degrees those pernicious rewards of virtue and labour which were called drams, but were registered in the books as stimulants. If the guardians liked to give these payments to able-bodied paupers let them give them, but let the responsibility rest with the guardians. He totally objected to the doctors being made the engines for converting able-bodied paupers into infirm paupers, by giving them alcoholic liquor, and he thought Dr. Kerr's paper would be productive of much good. In one workhouse there would be a consumption of alcohol to the extent of 2½d. per head, whilst in another the consumption would amount to 30s. per head. Both could not be right, and he trusted they would soon arrive at a conclusion as to which was right. He had no doubt himself that the nearer they approached 2½d. the nearer they would approach perfection.

Dr. Townson, who seconded the vote of thanks, said that all his life had been spent in Liverpool, and for twenty-eight years he was medical officer to the post office, and the result of his experience was that the men, women, and boys enjoyed the very highest state of health, and were the least in the doctor's fingers, who were total abstainers.

The Chairman said Dr. James Stewart had sent up his card with an intimation that he would like to enforce what had been said about the debt the public owed to the National Temperance League and about the power of the medical profession; but at that late hour he must ask Dr. Stewart to let that be his speech. On behalf of the League he begged to thank the company for the resolution, and the members of the Medical Association for their acceptance of the invitation of the League. He hoped to have the privilege of meeting them on many future occasions.

The company then separated.

THE BRITISH MEDICAL ASSOCIATION AT LIVERPOOL.

THE HABITUAL DRUNKARDS COMMITTEE.

On Friday, 3rd August, the report of this Committee was read, as follows:—The Committee, during the past year, issued a second circular to boards of guardians in England, as to the desirability of guardians being
The British Medical Association at Liverpool.

entrusted with the optional power of either paying for the detention and cure of habitual drunkards in separate homes, or of compulsorily detaining them in the workhouse for a given time, in order to endeavour to cure them of the disease which constantly brought them into "the house" after a debauch, only to recommence after their dissipation and intermixture. The Committee have received favourable replies from twenty-seven unions, eight unions being unfavourable, and fourteen expressing no opinion, or forty-nine replies in all. This shows a considerable advance in favour of the Committee's views compared with the response to a similar circular in 1881, when only half the number of favourable replies was received. The Committee recommend that every influence be brought to bear on the Local Government Board to induce them to grant the powers in question to boards of guardians.

The Committee are glad to be able to report that the Dalrymple Home for Inebriates Association has acquired a suitable house and grounds at Rickmansworth; that the home has been licensed to receive sixteen male patients, is under the care of an experienced medical superintendent, and is announced to be open for the admission of patients by October next. This home will meet the want alluded to by the Inspector of Retreats under the Habitual Drunkards Act of 1879, in his annual report, viz., the want of a licensed inebriate retreat, which could supply within its limits such outdoor recreation and employment as would obviate the present necessity for allowing inmates to spend a part of their time amid temptation outside the institution. The Dalrymple Home Committee appeal for £5,000 to purchase the freehold and furnish the home, and for a liberal annual subscription list; and your Committee heartily commend the effort to the members of the British Medical Association as deserving of generous support and co-operation.

Your Committee rejoice also to note that a special discussion, to be opened by one of their number, is to take place at the forthcoming meeting of the Social Science Association at Huddersfield, the subject being the propriety of amending the Habitual Drunkards Act; and, if so, in what direction? The Act is so completely permissive in its application to the habitual drunkard, and offers so many barriers to even his voluntary admission into a retreat, that your Committee trust the influence of your Association will be powerfully wielded to secure a strengthening of the compulsory provisions of the Act, and a relaxation of the stringency of the rules of admission.

Your Committee recommend their re-appointment.

Alfred Carpenter, Chairman.

E. Hart Vinen, Hon.

Norman Kerr, Secretaries.

Dr. Norman Kerr moved the reception and adoption of the report, which was seconded by Dr. McVail (Glasgow), and agreed to. The following are the committee: Dr. Norman Kerr, chairman; Dr. Alfred Carpenter, Dr. Blandford, Dr. Cadige, Dr. Beverley, Dr. Cameron, M.P., Dr. Farquharson, M.P., Dr. Eastwood, Surgeon-Majors Poole and Evatt, Dr. H. W. Williams, Dr. Thompson, J. P. Bideford; Dr. Munro, Dr. B. Foster, Dr. Rayner Batten, Dr. Drysdale, Dr. Carter, Dr. Hill Gibson, Dr. A. Grant, Dr. C. J. Hare, Dr. S. Bird, Dr. George Robertson, Dr. B. Squire, Dr. Danford Thomas, coroner for Central Middlesex; Dr. Walker, Dr. Joseph Rogers, Dr. Wickham Barnes, Mr. Nunn, Bournemouth; Mr. Holthouse, Mr. Mould, Mr. Nicholson, Mr. Balding, Mr. Harrison Branthwaite, Mr. Prankerd, Mr. Vacher; Drs. C. R. Francis and Hart Vinen, hon., secs.

A vote of thanks was awarded to Dr. Carpenter for his past services in the chair.

Dr. Norman Kerr moved: "That the Dalrymple Home for Inebriates be recommended to the sympathy and support of the Association and the profession as a public experiment of much importance, and that the in-
fluence of the Association be employed to endeavour to secure from Parliament a lessening of the barriers to voluntary admission into a retreat, in addition to a strengthening and extension of compulsory powers for the detention and admission of habitual inebriates in such establishments.

He hoped that the Home would be opened in October for the admission of patients. It had taken many years to bring it within sight of opening, and the work had been done chiefly by two or three members of the Association. The institution was the child of the Association, and ought therefore to receive its hearty support. He hoped when the present Act expired an effort would be made to remove some of the existing barriers to the admission of patients, and to obtain power such as was possessed in New York to apply a little gentle compulsion for a few days to inebriates to enable them to recover their senses, and then decide whether they would go further under the operation of the Act.

Dr. Hare (London) in seconding the motion, said that the power of the Association could not be exercised more beneficially than by supporting the Dalrymple Home. He felt sure that, backed up by the Association, the Government would be more willing than heretofore to carry out measures that were required for the protection and cure of inebriates.

The resolution was then agreed to.

THE MORTALITY OF TOTAL ABSTAINERS AND MODERATE DRINKERS.

On Thursday, 2nd of August, Dr. C. R. Drysdale, of London, read, in the Public Medicine department, a paper on the comparative death-rates of total abstinence and moderate drinkers as ascertained by the record of insurance companies. He observed that the method of statistics so peculiar to this century seemed to him to show clearly that even a moderate daily consumption of any alcoholic fluid was detrimental to health and longevity. Dr. Drysdale detailed a quantity of evidence which he had obtained from several insurance companies bearing on the subject. One of these may be given as an example. Mr. Wilfrid Bowser, of the London, Edinburgh, and Glasgow Insurance Company, in a letter dated June, 1883, states that his company was the first to offer special advantages to total abstainers insuring against accidents. In that company "assurers who are total abstainers from alcoholic drinks of one year's standing pay the same rates of premium as non-abstainers, but they are assured in a separate and distinct section. It being an ascertained fact that the rate of mortality of total abstainers is less than that of the general public, the former derives the entire benefit, at the periodical division of profits, of their superior health and longevity. It is important to observe that persons who are the least intemperate are not assured by this company upon any terms." Dr. Drysdale, having detailed the whole of his evidence, added, "The information derived from such important contributions to vital statistics of teetotalers and moderate drinkers all points clearly in one direction, and that is towards total abstinence from alcoholic drinks in daily life. Alcohol clearly is a dangerous article of diet, and, like ether, chloroform, and opium, is in its right place only on the shelves of the apothecary."

HABITUAL DRUNKARDS AND THEIR TREATMENT.

Dr. Norman Kerr, M.D., F.L.S., read on Thursday, 2nd August, in the department of Public Medicine a paper on the "Present Position of the Habitual Drunkard Movement." In the course of his address Dr. Kerr said: This movement had its origin from the medical profession, and owed its present prominence in public estimation chiefly to the work of the Habitual Drunkards Committee of the British Medical Association. The Act of 1879, though imperfect and far short of what was asked for by the Association, enabled a confirmed inebriate, before two magistrates, to voluntarily surrender his liberty for a period not exceeding twelve months. As the Act was to be in force only
ten years, only one or two persons had thought it worth while to furnish a home and apply for a license. Thus the Act, imperfect as it was, had not been fairly tried, though the inspector had reported that some inebriates had been benefited. In America, Australia, and other countries, much more had been done for the dipsomaniac, and much more good had been effected. The Dalrymple Home Association had been formed to establish a public philanthropic institution to test the value of the proposed treatment under the Act, and had purchased a suitable house and grounds at Rickmansworth, which had been licensed by the local authority, and would be open for the admission of patients in October. The Lord Mayor of London had made a powerful appeal for the necessary funds. This was a doctors’ move-ment, and the labour and responsibility had fallen mainly on members of the British Medical Association. The Dalrymple Home could be a success only with the professional and financial help of the Association and its members. Very few social reformers recognised the physically-diseased condition of many inebriates, and the present effort was an attempt to cure and restore to sound bodily, mental, and moral health diseased inebriates who at present were beyond the reach of temperance and religious agencies. A few genuine cures of typical cases in a public institution would probably secure the permanent prolongation of the Act, as well as the much-needed provision of compulsory powers and the relaxation of the present stringent barriers to voluntary admission.

THE USE OF ALCOHOL IN WORKHOUSES.

On Thursday, 2nd August, there was a large attendance of members and others at the annual meeting of the Poor Law Medical Officers’ Association, which was held in one of the rooms of the Liverpool College, in connection with the session of the British Medical Association. The chair was occupied by Dr. Joseph Rogers (London), president of the Council, and medical officer of the Westminster Workhouse, who expressed his strong disapproval of the use of stimulants in workhouses, and referred in detail to his own personal relations with the Westminster Board of Guardians.

Dr. Norman Kerr commenced by proposing the following motions:—

“That in view of the very large proportion of pauperism produced by intemperance, and the disturbance and impairment of discipline where intoxicants are in use, this meeting notes with pleasure the greatly diminished consumption of intoxicating drinks in workhouses, and strongly urges on all poor-law medical officers the propriety of prescribing as little intoxicating liquor as may be found compatible with the safety of the sick.”

“That this meeting also is of opinion that no pauper should receive payment in intoxicating drink for work done, and that all parochial officials should have the option of a money equivalent in lieu of an allowance of beer or other intoxicating beverages.”

“That this meeting instructs the chairman to forward a copy of the above resolution to Sir Charles Dilke, the President of the Local Government Board, and to the medical and general press.”

Dr. Kerr pointed out the anomaly of a sick pauper in one locality being ordered intoxicating stimulants at the rate of £2 14s. per case, and in another locality being treated without such remedies at all. In 1881 the cost for alcohol in metropolitan workhouses ranged from 2d. to 32s. per inmate. In the Atlas hospital-ship the average was £4 7s. 6d. The prescription of alcoholic drinks to the sick poor was surrounded by peculiar
difficulties, inasmuch as, as he himself had seen, everybody but the patient might consume the liquor. Then the poor generally descended into pauperism through strong drink; and a free or routine administration of this pleasant and powerful drug only tended to confirm their prejudice in favour of, and their previous desire for, intoxicants. It was gratifying to find that there had been a marked decrease in the cost for beers, wines and spirits during the past few years. There would have been a still greater decrease, but in cases within his knowledge the efforts of the medical officer had been thwarted by his being subjected to endless worry, annoyance, and even injury to reputation and practice, by guardians and others who were strongly in favour of a large expenditure on drink. In some cases he was bound to confess the difficulty lay with the medical officer. A recent return by Lord Derwent showed that in 1881 £22,000 less had been expended on intoxicants in workhouses in England and Wales than in 1871, a decrease of over 25 per cent., though there had been an increase of over 8 per cent. in the average daily number of pauper inmates. In this last return it is noted that there had been no consumption of strong drink in 1881 in the following workhouses:—Shoreditch, Greenwich, and Leeds. Had the period embraced in this return extended a little later the extensive workhouse of St. Marylebone, with a daily average of 1,577 inmates, would have been reported as having consumed no intoxicating drink in 1882. From this 1881 return it would appear that in seventeen unions no liquor had been used, eight of these being Welsh. Owing to the change from infirmary and workhouse under one roof to separate infirmaries it is impracticable yet to make out the actual decrease in the amount ordered to the sick; but in several infirmaries, such as St. George's-in-the-West, Wandsworth, and St. Marylebone, there had been a very decided reduction. All this showed that poor-law medical officers did not now place so much reliance on the alleged thera-

peutic virtues of intoxicating remedies as they used to do. He (Dr. Norman Kerr) ordered them very rarely and very sparingly, and he had never seen reason to be dissatisfied with the results of this almost non-alcoholic treatment. It was impossible for the present to say what effect this diminished stimulation had on the mortality, all the factors not being within their reach. He had, for example, found a very high mortality where no liquor had been given. But there was evidence enough to show that, other conditions being equal, the withdrawal of alcoholic drink did, to say the least, neither injure the health nor increase the death-rate of the sick. This subject had attracted much popular attention, and he regretted to read denunciations of medical officers who continued to prescribe intoxicating drink freely. The medical officer, and the medical officer alone, was the judge of what medicine his patients should have. He was responsible for the treatment, and any outside interference with that treatment from non-professional quarters was as unjustifiable as it was mischievous. The more reason, therefore, that medical officers should study the precise value of alcohol as a medicinal remedy, in the interests of their own reputation, of the dignity and usefulness of their profession, and of the patients confided to their care. Intoxicating drinks were always a disturbing element. Where they were, disorder and breaches of discipline were apt to abound. For these reasons he (Dr. Kerr) felt convinced they would all be agreed that every poor-law official with a beer or other ration should, in common fairness, have the option of an equivalent in money, and that there should be a total discontinuance of all payment to paupers for work done with intoxicating drink. The excellent effects of the rejection of intoxicating drink from the ordinary dietary had been seen in the county lunatic asylums of Abergavenny, Derby, Barmehtheath, Carlisle, and other places. At Abergavenny it had been found that the substitution of milk for beer, although adopted solely for medical
The Use of Alcohol in Workhouses.

reasons, had resulted in a saving of £223 a year on 630 patients. Though Dr. Kerr mentioned the saving in cost, he did so simply as the record of a fact. Though a lessened consumption or total abolition of intoxicating drink was accompanied by a diminished expenditure, the unmistakable benefit arising from such a course would, in his opinion, be well worth a considerable increase of expenditure. The exclusion of all intoxicating liquors, except for therapeutical purposes, from all public institutions would secure more vigour, efficiency, and care in their management, would greatly improve the health, comfort, and happiness of the inmates, and would be a practical reform of the very highest importance. He was sure that the proceedings of that meeting would exercise a wide and lasting influence in official, philanthropic, and professional circles.

Dr. C. R. Drysdale, in seconding the resolution, said there were few subjects of more importance to medical officers of health, because it affects the whole system of workhouse diet. It was wrong for doctors to prescribe alcohol, because it was plain, from the whole statistics on the subject, that those who drank intoxicants live a shorter time than those who did not. He had a paper in another section, in which he showed that a number of insurance companies would give 10 per cent. off their insurances to persons who would undertake not to drink alcohol. Taking another view of the question he maintained that it was exceedingly immoral in any community in the present day to take drink into a workhouse and allow paupers a supply of that which inevitably produced a great amount of immorality.

The chairman remarked that in the Westminster Workhouse there were sixty-four pints of beer allowed daily for “labour done” in the house, and it was distributed amongst ninety-two people. The names of those people were entered in his stimulants book, but of four-fifths of that number he had no official knowledge whether they were actually in the house or not. He was bound to initial the supply to those people, however, although he did it against his will, and he had protested against it before the guardians.

Mr. E. Jones, chairman of the Toxteth Board of Guardians (Liverpool), supported the motion, and, in doing so, said: It would be presumptuous on my part to express any opinion on the medical aspect of this question in the presence of so many professional experts. I may, however, be permitted to point out a possible danger in prescribing stimulants to the class of people found in workhouse hospitals. These people have unbounded faith in the prescriptions of medical men, especially when the medicine is palatable. Then, if you give them an inch they will take an ell, and they come to regard these stimulants as the panacea for all the ills that flesh is heir to, real or imaginary—they, in fact, regard spirits as the “elixir of life.” There is a theory upon which the prescription of alcoholic stimulants in workhouses may possibly be maintained; it is the familiar formula, “Similia similibus curantur”—because it is well known that most of the inmates in workhouse hospitals have been saturated with drink—that is to say, giving a man a hair of the dog that bit him. To be consistent, it is simply necessary that the prescription of stimulants should be in infinitesimal quantities. On that condition I should be content, but on that only. I am perfectly satisfied that by the abolition of the use of stimulants in workhouses discipline would be greatly improved both as regards the inmates and officers. In Brownlow Hill I believe the practice was to give the option, at least to the officials, of money value instead of beer; but there are members of the Liverpool Vestry here who no doubt will be able to say how far that is the case. I find that the amount consumed in the Liverpool Workhouse is much lower than the average, and I hope this conference may tend to reduce the use of stimulants in all the workhouses in the kingdom.
Mr. T. D. Laurence (Liverpool Select Vestry) also supported the motion, and in doing so gave figures showing the cost of stimulants consumed in the Liverpool Workhouse since 1877. In that year the average number of inmates was 2,413, and the cost of stimulants was £833 6s. 10d., or 6s. 11d. per head per annum. The following year it rose to 78. 3d. per head, and for the next three years it was respectively 6s. 7½d., 5s. 5d., and 4s. 7d., the number of inmates last year being 2,947, and the cost per head 4s. 7d., or £675 4s. 7d. Those figures included the cost of stimulants used in the large fever hospital of the workhouse, which, of course, accounted for a considerable consumption.

Dr. Parr, a member of the Reigate Board of Guardians, stated that he had undergone a certain amount of martyrdom, and had been burnt in effigy on a village green in his neighbourhood, because he was the author of, and was successful in carrying, a motion at his Board of Guardians for the suspension of the use of beer for dinner and supper among the paupers of the institution to which he was attached. In order to get the beer stopped he had to apply to the Local Government Board, as the guardians would not do it; and the Local Government Board replied that if the beer were supplied the master of the workhouse would be surcharged the amount spent on it. Reports received since in regard to the workhouse showed that discipline had improved, as also had the health of the inmates.

The Chairman here announced that as they were only temporary occupants of the room they were in, and the time had arrived for another meeting, he must draw the discussion to a close. Several people expressed a desire to speak on the other side of the subject, and it was decided to adjourn to the secretary's private room, where the discussion was continued.

Mr. Rhodes remarked that to take away from old persons admitted to workhouses, and who were consequently in a very depressed condition, stimulants, would be very cruel indeed.

The Chairman: The persons to whom we refer are not sick persons, but those who receive beer for labour.

Dr. Carmichael said, speaking not only as a medical man, but as one who had been chairman of the large Union of West Derby, he would be sorry to deprive the medical officers of workhouses of the power to prescribe small quantities of beer to those who were unable to work, and would not work at all except they got this. In 1880 a report was prepared by the West Derby Board of Guardians, in which it was stated that about three years before the guardians decided, subject to the medical officer's sanction, that the paupers who worked at their trades should receive half a pint of beer per day; that sixty-three (four females and fifty-nine males) of that class were each receiving half a pint of beer at that time. The object was to get the men to work at their own trades, which they would not do without some inducement. The ages of the men at work were as follows:—1, 32 years; 2, 40 to 50; 29, 60 to 70; 24, 70 to 80; 1, 81; 2, 82; all doing work without any extra diet. He did not think the meeting would approve of a proposition taking away from such persons the allowance of beer that was granted to them.

Dr. Robertson, physician to the Liverpool Workhouse of the Select Vestry, said that it had been remarked that when old people went into the workhouse they began to fret and die of broken hearts. A number of old people came into the workhouse he was connected with; they had very little stimulants. Some of these people were in bed, had been so for a long period, and some of them were above sixty, seventy, eighty, and even ninety years of age.

A Voice: "Do they get extra diet?"

Dr. Robertson: No, they did not; only a little more than the house diet. A number of these cases never had stimulants in the hospital, and as a rule they were persons who had indulged in stimulants to an extraordinary degree before they came into
the hospital. That showed the fallacy of saying that persons cut off from stimulants suffered harm. Persons brought into their hospital suffering from delirium tremens did not get stimulants, and they did not take any harm. He thought, too, the practice of giving able-bodied paupers beer was most objectionable. He mentioned that poor women worked in the fever hospital, and only got the ordinary diet; they had been there, some of them, for twenty years, and if they lived all that time in a fever hospital without stimulants, surely it was not necessary to give stimulants to able-bodied paupers. The number of fever cases brought to their hospital was very large, yet the quantity of stimulants used was perhaps the smallest in the kingdom, and the statistics of recovery compared favourably with any other.

The resolutions proposed were then put and carried, only three persons voting against them.

ALCOHOLIC LIQUORS IN UNION WORKHOUSES.*

By J. J. Ritchie, Esq., M.R.C.S., Leek.

The subject chosen for discussion to-day is one that is now engaging a considerable amount of public attention in relation to the great temperance reformation, and is growing in interest, as it deserves to do, when we consider that over three millions of persons, or one in ten of our entire population, apply for parish relief during the year, and when we remember that by far the larger portion of these are brought to this condition of destitution through the use of these drinks. Now let it first be noticed that the supply of these beverages to the officers of the workhouse and to the healthy paupers is a totally different question from that of their employment as therapeutic remedies to the sick inmates of the infirmary of the workhouse, and we must therefore look at the subject from both standpoints. The administration in the former instance is a matter for which the guardians are responsible—in the latter case the responsibility rests upon the medical officer.

I do not intend to trouble you to-day with a number of figures and statistics—these are published in abundance, and can be consulted by anyone who chooses to examine them; sufficient for our purpose to say that the cost of supplying these beverages ranges in various unions from nothing, or a few farthings, to over twenty shillings per head, and as it is a matter of great moment to the already overtaxed ratepayers that unnecessary expenditure thereupon should be avoided, it will be well to see whether their administration is required at all, and if so, when and how.

With our present scientific knowledge, we are able to state that intoxicating liquors are in no way essential to health—supplying no material whereby the tissues of the body—constantly undergoing waste—can be repaired, nor furnishing a means whereby the vital heat and force of the system ever being lost can be replenished.

Alcohol is not a necessity, it is at best a needless luxury, and is always used at a risk. To show that the above statement is true, I quote from one of our greatest living physicians. Dr. Andrew Clark says, "Health is that state of body in which all the functions of it go on without notice or observation, and in which existence is felt to be a pleasure, in which it is a kind of joy to see, to hear, to touch, to live. That is health. Now that is a state which cannot be benefited by

* Read at a Conference in the Borough Hall, Stafford.
alcohol in any degree. Nay, it is a state which in nine times out of ten is injured by alcohol. It is a state which often bears alcohol without sensible injury, but I repeat to you, as the result of long-continued and careful thought, it is not one which can in any sense be benefited by alcohol. It can bear it sometimes without obvious injury, but be benefited by it—Never."

Does it seem a rational proceeding to give an article, proved to be incapable of aiding the health of the body, in some cases in large quantities, to the inmates of our workhouses, most of whom are there through the ruinous influence of this very thing?

From the concurrent testimony of governors and chaplains and other well-informed persons, we find that 80 per cent. of our pauperism is caused by the use of intoxicating drinks, and it is a generally acknowledged fact that an abstainer from these does rarely, if ever, apply for parochial relief or become an inmate of the workhouse.

The indiscriminate manner in which these drinks are used in some instances is monstrous. It is the custom to reward the labours of the healthy male or female paupers employed in the various departments of the domestic economy of some workhouses by liberal allowances of beer, porter, whisky, &c., and whenever this is done we come across a disturbing agent in the establishment which incites to insubordination and leads to a decrease of discipline often so marked as to necessitate police or even magisterial interference. It has been invariably observed that when all alcoholic beverages have been prohibited to the officers and healthy inmates of our workhouses, there the order and discipline of the establishment is most conspicuous, and the conduct of the residents greatest. It has been well said, "alcohol is the prolific mother of disturbance, and where intoxicating liquors are, there the cost of supervision is increased." Many intelligent Boards of Guardians are alive to this, and have discontinued their use to able-bodied paupers, and every board would adopt a similar course if they reasoned correctly and acted for the best interests of both paupers and ratepayers.

The Local Government Board have spoken very clearly on this subject in Article 107 of the Consolidated Orders, thus:—"The paupers shall be dieted with the food and in the manner set forth in the dietary table which may be prescribed for the use of the workhouse, and no pauper shall have or consume any liquor, or any food, or provisions other than is allowed in the said dietary table, except on Christmas Day, or by the direction in writing of the medical officer, as provided in Article 108." Then Article 108 reads thus:—"The guardians may without any direction of the medical officer make such allowance as may be necessary to paupers employed as nurses, or in the household work, but they shall not allow to such paupers any fermented or spirituous liquors on account of the performance of such work, unless in pursuance of a written recommendation of the medical officer." This sounds very well, and apparently makes the medical officer solely responsible for the consumption of alcoholic beverages, but often he is expected to affix his signature, and thus legalise the expenditure even against his better judgment, as shown by the following remarks of Dr. Cooper, at a discussion in August last at a meeting of the Guardians of St. George's-in-the-East. He said. "No malt liquors had been supplied to the infirmary for the last twelve months, with the result that the patients had been more orderly, and a better discipline was maintained. His opinion was that they were quite unnecessary. With reference to the treatment of the inmates of the workhouse, he reminded the guardians that he discontinued the use of malt liquors in the workhouse, but renewed the allowance in consequence of an intimation from the board, although his own opinion was that the same treatment should be applied to the workhouse as to the infirmary." We may therefore conclude the guardians have this matter practically in their
own hands, and if they would consider that a large proportion of the inmates of our workhouses owe their pauperism to drinking—that not a few of them are habitual drunkards, whose only hope of cure is in unconditional abstinence, and that so long as fermented liquors form a part of the dietary of the healthy inmates of a workhouse, so long will their belief in the necessity and importance of alcohol as a common article of food for healthy persons be strengthened and confirmed, I cannot but think they would henceforth resolve to discontinue the present too frequent use of these drinks in these establishments. The arguments then against the use of alcoholic liquors to officers and healthy paupers may be summed up thus:—They are not necessary, but injurious to health; they do not enable persons to do more work, but render them less capable for it; they engender a spirit of discontent and insubordination, and their administration keeps alive a false belief in their real value, and thus tends to perpetuate the evil of pauperism, which in so large a proportion is found to result from their use.

Surely these conclusions are sufficiently strong to induce all thoughtful guardians of the poor to adopt in the future a system of prohibition of intoxicants to these classes in every workhouse in the kingdom. Now as to the administration of these liquors to the sick. This question rests upon an entirely different basis to the one previously discussed. That an article of food or drink is unnecessary, or even injurious, in good health, is no reason why it may not be most useful in the cure of bad health, and to the medical officer alone rightly belongs the privilege of ordering alcohol as a medicine. Now it behoves him to administer this potent agent with care, as he would other powerful medicines liable to dangerous abuses, to avoid that routine prescription of which I am glad to say is fast dying out, and will, I believe, entirely disappear as the properties of the agent are more carefully considered, and to order it with deliberation, judgment, and precision. That this course has not always been adopted is very plain from the wonderfully diverse returns of the cost of this article in different unions. Alcohol has been prescribed to the sick poor on no clear and well-defined lines, and as it is a powerful drug, it becomes medical men to seek to arrive at an approach to accuracy as to the value and mode of its administration. Hitherto this has not been done. Some have given alcoholic liquors in profusion, some have administered them in moderate quantities, and some have altogether discontinued their use, and each class has claimed for the practice adopted the highest results; but while admitting that as yet no returns published give reliable evidence of the effect of alcoholic prescription on the death-rate in our workhouses as a whole, yet it must be confessed that the expenditure on alcoholic drinks as medicines for sick poor is in many instances mischievously extravagant. Now, one result is very clearly shown on analysing the various returns of the health and mortality of the sick inmates of our workhouses, and it is this: that in those cases where the medical officers have decided not to employ these liquors in the treatment of their patients, the former has not deteriorated and the latter has not increased, so that there need be no fear in adopting a trial of the non-alcoholic system. I would ask medical officers all over the kingdom to give this subject most serious and impartial attention, to study this alcoholic question under the light thrown upon it by our daily increasing knowledge of the nature of the drug, and its action on the physical and mental constitution, and to resort to its use only when no equally good therapeutic agent is available. One course of practice would be of incalculable benefit, viz.—that when prescribed it should be given in definite doses, for a definite purpose, and for a definite time.

The uncertain composition and strength of most alcoholic liquids is a very serious bar to their proper employment as medicine. Wines
especially come under this charge—ordinary port and sherry vary from 25 to 50 or 60 per cent. of proof spirit—and as very much of what is sold as wine is a mere chemical concoction, in which the juice of the grape is conspicuous by its absence, it is plain that no reliance can be placed on its effects, and that its prescription would be a mockery. A quotation from a paper on this subject by Dr. Norman Kerr is so apt that I do not hesitate to give it. After enumerating the evils, many and grievous, arising from the presence of strong drink in our workhouses, he says, “Would it not be a most excellent consummation if the ordinary profusion of these beverages were almost if not altogether dispensed with? There is, as we have seen, reasonable ground to believe that the health of the poor would not suffer, and that the mortality would not be increased. It is certain that the morale would be improved, and that many painful scenes would be prevented, and that discipline would much more easily and effectively be enforced. I ask not for the absolute exclusion of alcohol, but in the interest of the poor themselves, of the rate-payers, and of the community at large, I do earnestly entreat my colleagues to steadfastly set themselves to inquire whether they can conscientiously try the experiment of treating the many afflicted ones under their care with the smallest amount of alcohol compatible with safety.”

It will not be a new departure, for several experienced medical officers have given the non-alcoholic system an extended trial, and have expressed their satisfaction with the result. I may mention such places as Wrexham, St. George’s, Chester, Helston, Barnsley, Longford, Falmouth, &c., and the number is constantly increasing. Special cases are often more telling than general statements. Take the following:—“During thirty-four years of Mr. Sleman’s tenure of office as a workhouse medical officer at Tavistock the cost of stimulants ordered by him came to 2s. 6d.” “Dr. Dixon, coroner for South Oxfordshire, has held a poor-law appointment for some thirty years, and has not recommended intoxicated drink as a medicine for the last twenty years,” “Mr. Bennett, of Winterton, for forty years prescribed no alcoholic liquors.” “Dr. Colliet, of Guernsey, attended the patients of two large hospitals—one in town and the other in the country—and the paupers of a populous parish for thirty years, and never once found it necessary to prescribe either spirituous, vinous, or malt beverages.”

“At a recent meeting of the Huddersfield Board of Guardians, it was stated that a letter had been received from Dr. Scougall, medical officer of Fulstone, as to the adoption of the non-alcoholic principle in the treatment of paupers.” After his appointment, Dr. Scougall, who is a total abstainer, asked if it was absolutely necessary for him to order brandy, spirits, or wine, along with beef-tea, or other articles of extra food for sick patients; and he suggested that instead of wines and spirits, farinaceous food and maltine should be substituted. Acting under instructions, Dr. Scougall tried the system for six months, and in writing to the Board, he said that patients improved more rapidly on the use of malt extract, Lloyd’s food, and such things, than they did when they had brandy and wine. Several patients had recovered far more rapidly under a non-alcoholic than under the other treatment, and he expressed the opinion that this treatment had the merit of economy.

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THE WILD MANIA FOR GIVING ALCOHOL.*
By Charles J. Hare, M.D. Cantab., F.R.C.P., Physician to University College Hospital, &c.

With reference to fluctuations in plans of treatment and of diet, the

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* From an address on “Good Remedies—Out of Fashion,” delivered at the annual Meeting of the Metropolitan Counties Branch of the British Medical Association.
The Wild Mania for giving Alcohol.

period to which I have alluded has seen the rise and the subsidence of the wild mania for giving alcohol in some form or other, in almost every kind and in almost every case of disease, and is now witnessing the rising into favour of the more rational plan of giving nourishment extensively in the mild and bland and usually easily digested form in which nature provides it—milk.

I well remember the time, twenty to twenty-five years ago, when alcohol giving was so rampant that it was difficult to see a patient who had been a few hours in the hospital before the time of one’s visit, who had not already been fed, almost as a matter of course, by the physicians or clinical assistant, on three or four ounces of brandy or on double that amount of wine; and because I would not give way to that alcohol-craze, and ventured to show that many serious diseases might be cured with the administration of little or no alcohol, I was considered (I well remember) the most unorthodox of teachers, if not something worse than that. I have always held, and still hold as firmly as anyone does that alcoholic stimulants are in some cases most valuable remedies, and I would not practise my profession if I might not use them when and where I deem them needful. But I always preached against the foolish, and I would almost say wicked, use of alcoholic which was common some years ago and, over and over again, I have said in my clinical lectures at that time, that the students I addressed would live to see the day, even if I did not, when the pendulum of opinion would swing in the opposite direction, and when alcohol would be decried as much as it was then being overpraised. It is not always, gentlemen, that a prophet lives to see so completely the fulfilment of his own saying when they foretell a revolution so complete. May a calm judgment guide herein our noble profession, and while we give up the routine and indiscriminate use of the remedy, may we better know how and when to employ it for the benefit of those whose lives are in our hands!

It is within the knowledge of all of us, then, that a most marked change, has, comparatively recently, taken place as regards this important question of alcohol-giving, and in the belief as to its necessity: our everyday experience, the tone of medical debates, the common current of conversation, all bear evidence in the same direction; but it is almost impossible to treat evidence of this kind, or even the results of private practice, statistically, or to reduce them to a clear tabular form; but it occurred to me that the hospitals might give more definite information. I applied, therefore, to the secretaries of the large metropolitan clinical hospitals, and have received, from all except two, replies containing most interesting, important, and valuable facts, to select and extract which from their books must, I am sure, have cost these gentlemen no small amount of time and trouble. I thank them most sincerely for their courtesy, and have pleasure in thus publicly expressing my obligations to them.

I trust that the tables which I have thus been enabled to construct will interest you. They place, I think, in a more trenchant and striking light than anything else with which I am acquainted, the rise and fall of excessive alcohol-giving; and it is worthy of remark, as showing the influence, and (may I say) the contagiousness of custom, how very uniform in point of time this rise and fall has been in almost all the hospitals. You must not consider, however, even in these tables as giving more than an approximate idea as to the amount of alcoholic drinks consumed by the hospital patients, because it is impossible to eliminate from the totals the amount taken by the servants, nurses, and others; however, in some cases the wine and spirits are separately named, and it is reasonable to suppose that the working staff would be allowed but very little of these, and that therefore the amount stated represents very closely that used by the patients alone.

You will see, therefore, how rapid was the increase in the use of alcohol between the years 1852 and 1862, and, indeed, in many cases, up to the year 1872; and you cannot fail
The Wild Mania for giving Alcohol.

to trace therein the great influence of the teaching and writings of Dr. Todd, and especially of his views on the "Treatment of Acute Diseases." You see also that even where there was some diminution in the use of alcohol (I refer for the reason above given chiefly to the "wine and spirit" column of Table below) between the years 1862 and 1872, the difference was not, generally speaking, large, but when the wrongness and the evils of this excessive use of stimulants began to force themselves upon men’s minds, and, thanks to this, and to the careful, prudent, and honest energy of Parkes, a change of practice occurred, the consumption of alcohol diminished so much as to show in 1882 a most remarkable reduction in the cost of wine and spirits in all the hospitals (except St. George's) from which I have received returns. Thus (without making corrections for the somewhat increasing number of beds), the cost of wine and spirits consumed every tenth year, from 1852 to 1882, at Guy’s, was £496, £1,231, £1,445, and £953; at Middlesex, £215, £550, £413, and £553; at Westminster, £208, £432, £367, and £137.

On the other hand, the use of milk has most rapidly increased in every hospital without exception, and has replaced—I believe greatly to the advantage of the patients—the alcohol in the treatment of disease. The quantity consumed in 1852 at St. Bartholomew’s cost £684, and in 1882, £2,012; at Guy’s, £236 and £1,448 respectively; at the London Hospital, £426 and £2,427; and so on. —British Medical Journal, July 28.

### Metropolitan Clinical Hospitals: Cost of Alcoholic Drinks and Milk Consumed.

<table>
<thead>
<tr>
<th>Year</th>
<th>Bartholomew’s</th>
<th>Guy’s</th>
<th>London</th>
<th>Middlesex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beds</td>
<td>Beer</td>
<td>Wine and Spirits</td>
<td>Total</td>
</tr>
<tr>
<td>1882</td>
<td>500</td>
<td>275</td>
<td>234</td>
<td>513</td>
</tr>
<tr>
<td>1852</td>
<td>550</td>
<td>260</td>
<td>305</td>
<td>565</td>
</tr>
<tr>
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<td>1229</td>
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<tr>
<td>1852</td>
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<td>1231</td>
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<tr>
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<td>670</td>
<td>732</td>
<td>1531</td>
<td>2199</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>St. George’s</th>
<th>St. Mary’s</th>
<th>St. Thomas’s</th>
<th>Univ. College</th>
<th>Westminster</th>
</tr>
</thead>
<tbody>
<tr>
<td>1882</td>
<td>200</td>
<td>372</td>
<td>337</td>
<td>762</td>
<td>301</td>
</tr>
<tr>
<td>1842</td>
<td>171</td>
<td>351</td>
<td>200</td>
<td>551</td>
<td>337</td>
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<td>520</td>
<td>576</td>
<td>50</td>
<td>206</td>
<td>796</td>
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<tr>
<td>1862</td>
<td>550</td>
<td>617</td>
<td>557</td>
<td>1174</td>
<td>434</td>
</tr>
<tr>
<td>1872</td>
<td>553</td>
<td>704</td>
<td>481</td>
<td>1079</td>
<td>688</td>
</tr>
</tbody>
</table>

This Hospital was founded in 1851.

This Hospital was not opened until November 1st, 1834.
REMARKS.—Charing Cross Hospital,—No return, King’s College Hospital.
As Dr. Todd, whose writings had so much influence in augmenting the employment of alcohol in disease was physician to this hospital, it would have been very interesting to obtain the statistics of alcohol in use in it. The Secretary, however, writes: “I much regret I have not the information you desire.”
For the sake of greater clearness, the cost in pounds alone is given, though the reports sent to me usually gave the shillings and pence also; these being considered in making the totals, will account for two or three apparent discrepancies.

Notes and Extracts.

DEAD-DRUNK.—This is defined by the savants of the Paris Biological Society to be a condition in which there is a proportion of one part of alcohol to 195 parts of blood in the circulation. Should the proportion ever come to one part of alcohol to 100 of blood, death would ensue. This might happen, and in fact has happened repeatedly, when a very large quantity of alcoholic liquor is swallowed at one time and quickly. In ordinary drinking, consciousness is lost, and with it the power to drink more, before the proportion of alcohol in the blood becomes fatal.—Philadelphia Medical Reporter.

ABSTAINERS AT A MEDICAL BANQUET.—Dr. J. H. Kellogg, editor of Good Health, published at Battle Creek, Michigan, U.S., who has recently visited England and several Continental countries, says: “Through the kindness of our friend Dr. Pietre-Santé, of Paris, we had the pleasure of attending the annual meeting of the Société D’Hygiène de France, of which the doctor was the founder, and is the secretary and most active member. Several hundred members were present at the annual banquet, many of whom we had the pleasure of meeting personally through the courtesy of Dr. Pietre-Santé, and the venerable Dr. Boggs, an English physician, for many years a surgeon in the East Indian Army, now a resident in Paris. With the exception of the wine, which is universally used in France, we should not think it necessary to criticise the material elements of the banquet; but we were gratified to note that our wine-glass was not the only one that remained empty. At least one member, the presiding officer, and a member of the French Senate, also abstained, quite to our surprise, as we expected to be an isolated example of total abstinence in the large assembly.”

THE ALCOHOLIC TREATMENT OF CHOLERA.—In a paper on the treatment of cholera in the Medical Times and Gazette (August 25), Dr. B. W. Richardson, F.R.S., says: “I am almost afraid to treat on the administration of alcoholic drinks in cholera, for fear that I may be accused of writing under what is called prejudice respecting those drinks. But it would be cowardly on that account to suppress what I feel to be most importantly true, namely, that the use of such drinks in any form is systematically pernicious in cholera. Years before I held the views respecting alcohol which I now hold, I had learned by what I had observed, first, that no good whatever follows the use of alcohol in cholera, and, secondly, that the local stimulation it causes excites vomiting, induces a febrile excitement, and favours after-prostration. It was difficult to keep alcohol-drinkers from taking it freely, and it was easy to detect that these persons were they who died most frequently and rapidly. How any authority could
recommend such a vile admixture as brandy-punch for the indiscriminate use of people falling ill with cholera. I am utterly at a loss to understand, nor can I either from the practical or physiological side see, at any moment, a place for alcohol in the treatment."

Consumption of Beer in the Paris Hospitals.—As some answer to the protests which have been made against his peremptory prohibition of beer for the patients of the hospitals, the Director of the Assistance Publique publishes some of the figures, which have justified, as he thinks, his too indiscriminate resolution. It seems that the quantity of beer consumed at the Hôtel Dieu rose from 37 litres in 1875 to 13,516 in 1882; at the Pitié from 700 to 8,995; at the Charité from 1,876 to 13,473; and at the St. Antoine from 3,768 to 14,564. The whole of the hospital establishments consumed 28,695 litres in 1875 and 151,174 in 1882. The consumption of vin ordinaire (which has the reputation of being very good in the Paris hospitals) rose from 1,893,128 litres in 1875 to 2,646,728 in 1882; that of Banyuls wine rose from 56,881 litres to 128,584, and Bordeaux from 78,814 litres to 103,988. There were also 1,130,531 litres of milk consumed in 1785, and 2,675,699 in 1882. The increase in the consumption of beer, therefore, has not been caused by its substitution for wine or milk, the beer being an absolute addition. "But who drank all this beer?" asked one of the municipal councillors. "That I cannot tell," replied M. Quentin, ‘though it is certain that all these supplementary quantities did not profit the patients."

—Medical Times and Gazette.

Abolition of Beer in Lunatic Asylums.—We have before us a letter, dated August 14th, 1883, from the medical superintendent of a large county asylum, who says: "The last asylum that has become a convert to the entire abolition of beer is Bristol. Only a few days ago (about a fortnight since, I think), the Committee of Visitors of the Bristol Asylum, on the recommendation of their medical officer, decided to discontinue the use of beer. There are sixty-one county and borough asylums in England and Wales, and at twenty-nine of these institutions beer does not form part of the dietary. The following is a list of twenty-nine asylums not giving beer as a part of the ordinary diet—viz., Cornwall, the Three Counties (Beds, Herts, and Hunts), Devon, Abercarnen, two Kent asylums (at Barming Heath, Maidstone, and Chatham, Canterbury). Norfolk, Northampton, Hereford, East Riding of Yorkshire (Beverley) and West Riding (Wakefield), Essex, Somerset, Gloucester, Derby, Northumberland, Cumberland and Westmoreland (Carlisle), Wilts, Salop and Montgomery, Worcester, two Lancashire asylums (Whittingham and Lancaster Moor), Oxford, two Birmingham Borough asylums (Old and New), Ipswich Borough, Bristol Borough, Leicester Borough (beer given to one-third of the patients), Nottingham Borough (beer given at option of patients). This is surely a goodly array of 'no beer' asylums, almost half the total number, and probably before long this number will be increased. Perhaps some of the other asylums have also decided not to give beer."

—

British Medical Temperance Association.

NEW MEMBERS.


Enfield, September 15, 1883. | J. J. RIDGE, M.D., Hon. Sec.
HISTORICAL FACTS RELATING TO THE STUDY OF INEBRIETY IN AMERICA.

By T. D. Crothers, M.D., Superintendent Walnut Lodge, Hartford, Connecticut; Secretary American Association for the Cure of Inebriates; Editor Journal of Inebriety, &c.

I propose to give a general outline of the most significant facts, apparent from a review of the present state of this subject. The term inebriety is used in its broadest sense to express all forms of excess from the use of alcoholic drinks. In America inebriety comes most frequently from three distinct social classes. The first class, who use wine and spirits regularly at the table, freely as tea and coffee are used, become inebriates from physical and mental shocks, strain, sudden depressing emotions, severe exhaustion from illness or injury, &c. The children of such persons are always more likely to become inebriates. The second class are born of weak, diseased parents, brought up in bad surroundings, where every impulse is unhealthy and perverted, and alcohol is familiar to them from childhood. A third class are temperate up to the time of entering into business or the active duties of life, then from some special cause become moderate drinkers, and later are inebriates. They may be temperate half a life-time, then suddenly develop inebriety. Heredity is most marked in the first class, and is always a sign of physical and mental degeneration in the second class; while the third class are most frequently the outgrowth of habitual neglect of healthy living, and general exhaustion of all the functional activities of the body. Dipsomaniacs come in the first and second class, and the steady and irregular drinkers are found in the last class. The exciting
cause is very often imperfect nutrition and want of rest; in others, psychical states of depression and exhaustion, from many causes, precede the drinking. These conditions can be traced, and are often clearly outlined in many instances; in others they are obscure. Inebriety in America is more impulsive and precipitate than in other countries, the period of moderate drinking is less marked, and the average life of the inebriate is shorter. Among the many reasons for this are the tremendous activity and competition in the ordinary work of life, the intensity of living, the constant excitement and changes, filling every moment of time, calling out every energy, putting them in a constant strain, followed by want of rest, neglect of the healthy functions of the body, &c., &c. Add to this the constant practice of using the strongest alcohols at all times and occasions, and it will be readily seen that the average American must of necessity possess less resisting power, and will fall a victim more readily to the action of alcohol.

The effects of these influences are marked psychologically in the character of the inebriety seen in America. When under the influence of alcohol the average American is full of delusions of speculation for wealth, power, and political achievement; his ideas flow in a channel of great events, and great schemes for the welfare of the nation and race; he is rarely a wife-beater or avenger of personal wrongs, but may be prominent in a mob to destroy some great evil, or foremost to break up some old order of events which are supposed to be blocking the wheels of progress. The inebriate American will always be found in the van of every new project in politics, social science, religion, and business, and, like Colonel Sellers, is buoyed up with the stimulating hope of "There is millions in it." The records of courts rarely exhibit brutal crime among inebriates who are Americans, but great schemes of companies, frauds, and stupendous swindles, for money or notoriety, &c., &c., are common among this class. The increased consumption of all forms of alcoholic drinks, which is far beyond the average gain of population, give unmistakable indications of the rapid increase of inebriety. This is confirmed by the courts' records for drunkenness in all the large cities and towns, and also from comparative evidence of the mortuary statistics which point to a rapid increase of those diseases which are most common in inebriates, viz., insanity, paralysis, and acute affections of the heart, kidneys, and lungs. It may be said, beyond all doubt, that inebriety in America terminates most frequently in acute organic affections of the body. Another fact of great interest is apparent to the psychological student, viz., that inebriety in America moves in waves and currents, with a decided epidemic and
endemic influence. This can be traced in the rapid increase of drunkenness in towns and cities, and after a time a reaction sets in, and a marked decline follows; the latter is seen following the temperance agitation and revivals. In some cases this is traced to special causes, such as financial depression, great social changes, &c.; at such times moderate drinkers become pronounced inebriates, and weak, nervous organisations, fall into inebriety; this increases up to a certain point, then from some unknown psychical force declines, and a revival of temperance efforts follows, with a decline of inebriety to a minimum. These waves and inebriate storms that sweep over large circles of country are always followed by intense revivals of temperance interest, and are fields of the most fascinating psychological interest yet to be studied. Inebriety among American women is undoubtedly becoming more pronounced every year. Although it is more covered up than in other countries, yet its increase is apparent in the great demand for narcotics, and the sale for beer and wine by grocers, also in the divisions of saloons into general and family entrances, with separate rooms for each. Among the better classes of women wine and spirits are less openly used, and social drinking more rare. The same is true of all classes except those of foreign birth, who still cling to the old custom of public drinking. The same general causes govern women that are noticed among men, only varying in degree; hence while women do not use alcoholic spirits as men do, undoubtedly they consume all forms of narcotics in excess of other classes. This peculiar sensitive organisation demands narcotics as a relief from the strain and exhaustion to which they are constantly subjected, and this is a source of great peril to the future of the American race.

In this brief outline of the nature and character of inebriety, it may be said that American inebriety is more often a pronounced form of brain and nerve degeneration, and that it comes from well marked physical conditions, largely controlled by social and psychical states peculiar to America. Its symptomology more nearly resembles that of insanity and general paralysis; its course is in waves and currents; its progress is shorter; and among women the use of narcotics is more prevalent than of other forms of alcohol. A history of the study and means used in the prevention of inebriety would fill a volume, and be of intense historical and psychological interest. It will be found to follow the line and history of every scientific advance, passing through the same successive periods of credulity, superstition, inquiry, and acceptance as actual truth. I shall in this brief sketch group some of the leading facts under two heads, viz.: The empirical, legal, and moral stage of the history, and the rational
and scientific period. The earliest organised effort in modern times to prevent inebriety, was a temperance society which began in New York State in 1828. The object of this society was to aid others in pledging themselves to abstain from all use of spirits, and help each to carry out this resolution. From this beginning have come all the varied temperance societies, which at one time or another have been prominent in nearly every city and town in the country. The growth of this movement has been wave-like, appearing at times very prominent, and extending over the country, enlisting all classes for a season, then dying away. The Washingtonian societies began in 1840, and in two or more years numbered many thousands among their members, but were ten years after practically unknown. These organised efforts, now seen in one form, then in another, have been gradually growing into more settled methods, and on better plans of action. The churches have taken hold of the work, and upon the theory of vice and sin, denounce the inebriate as a sinner, who prefers to drink and do wickedly rather than be temperate and live a Christian life; from this they have urged, as the only remedy, prayer, conversion, and a religious influence. Great revival movements based on this theory, called “Gospel temperance work,” have swept over wide sections of the country, creating much excitement. States and districts have been divided up, and workers sent to make a thorough canvass of each section, holding meetings, and urging all to sign the pledge, and abstain from the use of spirits. Some of these temperance societies have very systematic organisations extending over many States, with national councils, corps of lecturers, society papers, and large volumes of transactions. The prohibitionists, or those who would stop the sale of spirits, and increase the punishment of those who use it to excess, urge that it be made a political issue, and enforced by laws. They are sanguine that this is the true remedy to remove this evil. All of these society efforts fail to work harmoniously to one end, hence their labour is not productive of results that last. One reason for this diversity is said to be the growing conviction that the temperance question will enter into party politics in the near future, then the struggle will be between these varied organisations for recognition. Within a few years all these and other labours in this direction have become very active, and now nearly all the legislatures of the different States are urged every session to enact laws controlling the inebriate and the sale of spirits; also great summer mass meetings are held to urge the people to sign the pledge; church conferences devote days to the consideration of the subject. These are only general outlines of the work to-day in America, which is growing more intense and active. It is clear
to all who look over the field, that this is especially a period of agitation, from which the real work will by-and-by emerge, along lines entirely different from that seen at present. A glance at the literature will show the same ephemeral and transitory character. At first, papers, tracts, and sermons of an exaggerated sensational character, then gradually these are replaced by facts and arguments which came in the province of every one to determine. As the subject became better known, efforts to educate the public in regard to alcohol and its uses or abuses have followed. To-day the publication of a number of semi-scientific works devoted to alcohol and inebriety is a promise of great significance for the future, although some of these publications are dangerous because of the half truths they contain, from which conclusions and inferences are drawn by the reader which a better knowledge would dispel. Large publication houses are devoted exclusively to temperance literature, and issue great numbers of books, magazines, papers, musical works, &c. It may be said that in no other country is there so much printed matter relating to inebriety coming regularly from the press. Nearly every society and church organisation is full of enthusiasm to create public sentiment by the printed page, as well as by the public lecture and sermon. The value of these means can be estimated only in the most general way. The fact of inebriety steadily increasing indicates clearly that no direct results follow these efforts, and that only in some indirect way, not clear at present, can these means lessen inebriety, and save the drunkard. A study of the local influence of this temperance work in several communities will furnish some light or explanation why it is not more effectual all over the country. Here it will be found that the means used are addressed almost exclusively to the emotional side of the inebriate; that appeals to his reason, pride, and religious faculties, are very often sources of irritation and exhaustion, permitting no rest to the emotional faculties, and by trusting to glittering hopes not founded on physical states, the failure is always followed by reaction and loss of nerve force, making the last state worse than the first. Also it will be apparent that a certain number of persons will become profoundly impressed by the means used by societies, and take on a condition which may be termed *psychical shock*, in which they will remain temperate ever after, on the same principle that a certain number of cases will recover, from the apparent application of any remedy, no matter how absurd. In cases of fever a certain number will recover by the application of the pledge and prayer, but no data could be drawn from this to warrant the general use of this method in all cases. The conclusion is clear that a prominent cause of the want of results
from the varied temperance labours is that the means used are not adequate to the end sought, hence cannot lessen inebriety or reform the inebriate, for the reason that they are not along the line of nature and its fixed laws. The legal methods of curing inebriety by fine and imprisonment are universally acknowledged, by all who have made inquiries in this direction, to be failures. The punishment of an inebriate by placing him among criminals, in bad physical and worse mental surroundings, in which nothing but alcohol is removed, in a large majority of cases precipitates him into chronic stages, and removes him farther from hope of recovery. Of one thousand commitments in New York City for inebriety, nine hundred and thirty-six had been sentenced before from two to twenty-eight times. In the city of Albany in twenty commitments for the first time for inebriety, fourteen of this number were repeatedly returned for the same cause during the next five years, two died, and four were lost sight of. Officers of gaols and prisons, and magistrates of all district courts, are united in condemning the legal methods of suppressing inebriety. But they are powerless to change these methods. The very object and purposes of the law are defeated, and a class of incurables is raised up that is a perpetual menace to all law and order. The value of total prohibition enforced by legal measures is yet on trial, as a practical measure for the cure and prevention of inebriety. In some States its workings are said to be very encouraging. How far the legal restriction of all sales of spirits can break up inebriety must be determined in the future. It is clear that this and other measures for the benefit of the inebriate can be more thoroughly tested in America than in any country of the world; because society is less fixed, and more flexible, and the application and endorsement of practical measures are more readily entered upon than in other communities.

The second period—the rational or scientific epoch—began in 1790, when Dr. Rush, a distinguished physician of Philadelphia, urged that inebriety was a disease, and should be studied and treated as such. He affirmed that it was a physiological, and not a moral condition. This was not a new idea, but had been mentioned in a very early age of the world, and had been repeated from time to time all along down the ages. Forty years later the same views of Dr. Rush were repeated and urged in some detail, bringing out many angry responses from clergymen and temperance advocates. In Europe this theory was taken up and made the subject of several papers which have become historical. The idea was repelled by the moralists as a cunning excuse to cover up the wickedness of inebriates, and as contrary to the teachings of the Bible.

Nothing but discussions followed until 1852, when Dr. Turner
projected the first asylum for the medical care and treatment of inebriates, which was subsequently located at Binghamton, N.Y. Ten years after a large, beautiful building was erected and patients received, in 1859 a similar asylum was begun in Boston, which is now the famous Washingtonian Home. The asylum at Binghamton early fell into the hands of incompetent and dishonest managers, and became a centre of political intrigue. Both the income from patients and State-aid was large, and, after a chequered career of fifteen years, it was turned into an insane asylum. The legality of this is to be tested in the courts, with a good prospect of restoring the building to its original design or purpose. During the fifteen years as an inebriate asylum about seven thousand patients were under treatment, and from the study of over two thousand cases, five years after the period of treatment in the asylum, sixty-two per cent. were found to be temperate and sober. When the difficulties of this work are considered, with the extreme chronic stages of the persons coming under treatment, and the inexperience of its managers, this result is a most significant promise for the future. Psychologically it very clearly repeated the history of every new advance of science. First, in the extravagant enthusiasm and expectation which attached almost miraculous powers to the asylum and its appliances; second, when the truth dawned on the minds of these enthusiasts that inebriety as a disease could only be cured by long and exact processes of physical means accurately adjusted to the special needs of the patient, a reaction set in, and a great army of sceptics and doubters sprang up. This class, who are ever seeking the mysterious, have organised asylums in different parts of the country which, while acknowledging the need of restraint, deny the notion of disease, and urge that faith and conversion is sufficient for all cases. Three or four asylums have attained respectable proportions in size of building and number of inmates. Several asylums were organised in the interests of politics and rings, that after a few years were abandoned as failures. Others have been founded on broader principles, where the physical nature of inebriety has been recognised, and means and remedies sought to meet this want, and, although opposed very sharply on all sides, have gone on quietly building up and demonstrating these facts. There are over thirty asylums for the treatment of inebriates in America; some of them are small and imperial in their theories, and many of them are broadly scientific in their plans and appliances. All of them suffer from want of legal aid to restrain fully such cases; and from innumerable obstacles, in want of knowledge of those cases, and the best means of treatment and aids to carry out or supply it practically. Also the fact that a vast majority of such cases
are chronic and more or less incurable before they came for treatment.

 Everywhere these asylums are building up public sentiment in the direction of physical means and methods of treatment. Although the question of moral means and the vice of inebriety is still discussed, yet a conviction is rapidly growing that many of these cases of inebriety are diseased, and require actual restraint in asylums. Radical temperance societies urge this view in many cases. This is seen in the coffee-rooms and temperance eating-houses under the care of societies, where rooms are provided, and temporary shelter for those who without homes sign the pledge and make an effort to reform—a clear recognition of the value of positive physical means in the treatment of these cases. Without doubt the evils of inebriety are more generally recognised in America, and in many ways more money and effort are made to remove and remedy this evil, than elsewhere.

 To the careful observer, through all this confusion of theory and effort, there are unmistakeable signs of a new era, and a wider and more thoroughly practical knowledge of the means and remedies that will cure this disorder. The first effort to group and study the facts as they appeared from a scientific inquiry began in 1870, in the organisation of the "American Association for the Cure of Inebriates." This Association is made up of physicians who are connected with inebriate asylums and others interested, and is based on the general principle, that inebriety is a disease, and is curable as other diseases are. To this end asylums are essential, or special and particular quarantine stations, where the victim can be housed, and given exact physical care, until the causes are removed, and the patient built up into a more healthy condition of living.

 This Association has continually urged that inebriety should come under medical care in special hospitals, and that the victim should be held responsible, like the small-pox patient, to use every means for recovering; that the State should see that he is isolated and properly treated for this malady; that the best methods of treatment can be found in workhouse hospitals, where occupation, combined with the best scientific and sanitary surroundings, shall make recovery a matter of much certainty. The opposition urge that this theory is dangerous to the inebriate, and encourages a reckless disregard of his personal obligations; also that asylums are of only limited value for the first few days, or until the spirits are out of the patient; then the pledge and power of faith can do more than all other means. This view of inebriety is only urged by those who are practically unfamiliar with the natural history of the inebriate, and does not grow among thoughtful students. To the "Association for the Cure of
Study of Inebriety in America.

Inebrieties in its due very largely the growth of the scientific inquiry. Its transactions and journal have been going out regularly to all parts of the world, and its papers (many of them by the most distinguished physicians) have exercised a very wide influence in forming correct sentiment concerning the inebriate and his malady. One of the results is seen in the number of asylums being built in different parts of the country. One of the largest, which will contain three hundred rooms when completed, is for women, and is in process of building in Connecticut. The late Dr. J. Marion Sims, of New York, was president of the Association. In several States appropriations have been made, and State institutions have been projected. Many private corporations have buildings in course of completion, or in active operation, receiving patients. It is apparent that public sentiment is rapidly turning to the physical side of inebriety, and the theories which have prevailed as to its nature and treatment, are challenged and questioned before acceptance. The time has come to demand the facts, above all theory, and to insist that inebriety be studied and treated as a physical state, not a spiritual nonentity. A feeling of alarm pervades public sentiment, the calamities following and associated with inebriety, seem to peril all progress and civilisation, and the inquiry—What can be done? is heard from all sides. The conflict and confusion of fact and theory, now gathered about this subject, is the sure promise of the speedy dawn of a scientific study, and exact knowledge of the nature, causes and treatment of inebriety. As a summary of the above the following will serve to bring out the facts more clearly:—

1. Inebriety in America is one of the greatest sources of peril to civilisation and progress. It is very pronounced as a disease, and can be often traced in waves and currents, where the causes are unknown.

2. All efforts to remedy inebriety by moral means have failed; although applied with great fidelity and enthusiasm, and ample means, yet inebriety has notably increased. The present labours of both men and societies along the moral side of this subject are evidently nothing but agitations, whose real value is simply to call attention to the evil.

3. Inebriety when studied from the side of science, even in the most superficial way, appears as a great physical disorder following a line of law that may be seen and understood; the practical application of which promises the most satisfactory results.

4. Inebriate asylums, as stations where the inebriate can be housed and studied, are necessary means for the cure and restoration of the inebriate, along the line of natural laws; and their practical value is assured beyond all controversy and doubt.

5. Inebriety in America, as elsewhere, must be studied above
all theories and dogmas, before it can be known or understood. The inebriate is no exception to the vast armies of defective and degenerate, who appear everywhere as the result of violated law, and physical conditions of life and surroundings.

DIARRHŒA.

By Dr. C. R. Francis, formerly Principal of, and Professor of Medicine in, the Medical College, Calcutta.

Amongst the various ailments, for which alcohol, in some form or other, is considered useful by the public, Diarrhœa occupies a prominent place. A glass of hot brandy and water; one or two teaspoonfuls of brandy in a cup of hot tea; arrowroot, or sago, with port wine, &c., are commonly recommended. As, however, diarrhœa may be associated with a great variety of morbid conditions, it is not likely that the same remedy would benefit them all.

It may be well to classify the different kinds of this disorder under appropriate headings; observing, in limine (though it may be thought hypercritical), that the term, derived from a Greek word, ἀπαρχαῖος, signifying to "flow through," is scarcely applicable to all. It is strictly so, however, to cholera; and in cases of advanced debility, as phthisis, where, in the absence of the ordinary peristaltic vigour, the intestinal contents—little more than an exhalation in the first of these instances—simply pass through the canal. In others, owing to some irritating cause, they are hurried through and expelled.

Causes.—Diarrhœa is often a symptom of disease, not necessarily abdominal. It sometimes has a nervous origin, e.g. when the individual is under the influence of fear, or any temporary anxiety: it may be vicarious, as when discharges are rapidly suppressed, or following the absorption of dropsical effusions: or reflex, as in infant dentition: or eliminatory, as in renal disease, gout, pyæmia, or other forms of blood poisoning: and after some fevers: it may be caused by a diseased or inefficient pancreas, thus leading to what is known as diarrhœa adiposa: or it may be the result of local irritation, as an excessive flow of bile, or unhealthy secretions; too much, or indigestible, food, when it is sometimes called lienteric; impure water, or other liquids, as beer, alcohol, &c.; worms; constipation; irritant poisons; purgative medicines; ulceration, as in enteric fever, phthisis in its early stage, mesenteric disease; organic growths, as albuminoid infiltration, cancer, tumours, &c.: or it may result from congestion caused by a
Diarrhoea.

chill,* or by pressure from an enlarging spleen, &c.: or it may be colliquative, as in the advanced stages of any wasting disease: or premonitory, as in cholera or dysentery: or sympathetic, as in cerebral disorder—it is sometimes a prominent symptom in European children suffering from spurious hydrocephalus in India:—or, it may be caused by malaria. It is sometimes a troublesome and even fatal concomitant in splenic cachexia in malarious districts in India. It is common as a chronic disorder amongst the natives in those localities; and it is apt to supervene with startling suddenness in European children. Foul states of the atmosphere will sometimes cause diarrhoea, e.g. those which prevail in overcrowded localities, or in the dissecting room, &c.

Pathology.—The pathological condition of the mucous membrane of the intestinal canal in diarrhoea varies with the nature and stage of the attack. In the simpler forms, or in the earlier stages of the more serious, there is hyperæsthesia with irritability, followed it may be, as a consequence of neglect, or in the progress of the disorder, by congestion, or even inflammation, and ulceration. These latter conditions are naturally more difficult to cure than those where there is no evident alteration of structure; though it may be stated generally, that, unless something be present, which is incapable of removal, and which must therefore remain as a permanent source of irritation, even these conditions may end in recovery. In short, diarrhoea, that is not symptomatic of incurable disease, either within the abdomen or elsewhere, will usually subside in due course. In some cases the intestinal canal, in its entire length, is anæmic, though without lesion; and the power of absorbing nourishment is reduced to a minimum. These are among the most unpromising cases with which the physician has to deal: for, too often, especially in tropical countries when the disease is of long standing, the villi are, more or less, destroyed; and, in proportion to the extent of their destruction will be the magnitude of the danger.

Symptoms.—Defecation is, or ought to be, a periodical process; the feculent matter being semi-solid, and assuming a definite shape. Under the influence of something that irritates the mucous membrane of the intestine, the peristaltic action is quickened, and the faeces are hurried along without having time to form. This is often the case after a debauch, when a variety of articles, each in itself harmless but irritating when combined, are eaten and drunk. The looseness thus engendered is some-

* The often intractable forms of diarrhoea, known as Hill Diarrhoea in some of the Himalayan sanataria, is, in part, thus caused,—the colder air in those regions driving the blood inwards, especially upon organs that were in full activity in the plains, e.g., the liver, which now ceases to act.
times called crapulous diarrhoea. With many persons the faeces are habitually unformed; as is seen in the natives of India—especially Hindoos—whose diet consists chiefly of dal (a kind of pulse) and rice. The former creates flatulence, which may give an irritating fillip to the muscular tissue of the intestinal canal. This kind of looseness is not inconsistent with health. It occurs in persons of heightened susceptibility, and in those disposed to hysteria.

The evacuations in health have usually a characteristic odour, and the absence of this odour is probably an indication of something abnormal. Practitioners, who are familiar with the appearance of discharges from the bowels, are often able to diagnose with tolerable accuracy, the pathological condition from the peculiar smell. Investigations of the—so-called—diarrhoea stools should, as a rule, be insisted on; as, sometimes, there is no diarrhoea at all—the patient, however, thinking otherwise; or there may be a fistula in ano: or, it may be a case of malingering.

The evacuations in diarrhoea vary according to the cause and the pathological condition. Sometimes, they are gelatinous or mucoid,* and are usually evidences of straining, as in dysentery, or of prolonged constipation. Blood in the stools may be a sign of great danger, as in a case of tumour, or some diseased organ, impeding the portal circulation, or of a perforated blood-vessel, or ruptured aneurism; or it may result simply from excessive effort in endeavouring to expel the contents of the rectum; or from piles: it is also a symptom of dysentery. Disordered conditions of blood may cause it; or, it may be vicarious. The presence of pus points to the probable existence of an abscess, and its rupture into the intestines, as is sometimes seen in cases of suppurative inflammation of the liver. It is met with also in typhilitis, or perityphilitis, that has run its course. Serous diarrhoea is often synonymous with choleraic diarrhoea, which is due, it is believed, to a milder dose of the cholera poison. It is sometimes prevalent before and after epidemics of cholera; or, it may exist sporadically per se for a limited time, the disorder never attaining a higher degree of intensity. The diarrhoea may be serous under other circumstances, as when it follows perspiration that has been suddenly checked. It is known as the “water gripes” of infants. It may be the result of an imprudent use of acid fruits, or of drinking cold water when the body is heated. Serous diarrhoea is characterised

* In delicate valetudinarians of advanced years the stomach and bowels are often loaded with depraved mucus, the mucous membrane being thickened and congested. In these cases flakes of mucus are sometimes detached in masses—whence the term mucous diarrhoea.
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by limpid flaky stools, variously coloured. Fat in the dejecta may occur when the functions of the pancreas are at fault, or when there is a deficiency of bile. The stools have sometimes a milky appearance, when the diarrhoea is called chylous.

TREATMENT.—The treatment of an attack of diarrhoea will depend, obviously, upon the cause. Where Nature is endeavouring to expel any source of irritation, we must endeavour to assist her according to the character of the case; and counsel an avoidance, for the future, of whatever gave rise to the attack. Where the diarrhoea is not the result of progressive disease, as albuminoid infiltration, or deposit, or cancer, &c., &c., the treatment will generally be successful. Errors in diet may be corrected, and excessive, or defective, secretions be regulated; worms may be expelled, and constipation prevented; and the ulceration, accompanying a passing disorder (as enteric fever), may be piloted to a successful termination. The diarrhoea of nervous origin will often pass away with the subsidence of the cause which gave rise to it; or, if not, a mixture of soothing and strengthening remedies may be called for. In this form of diarrhoea, the nervous system being depressed, the evacuations may become loose under the influence of various emotional causes. Congestive diarrhoea, if the result of a chill, is often intractable; but will usually yield, in the end, to a mixed, but not debilitating, treatment, of which appropriate diet—bland, unirritating, yet nutritious—forms an important part. In congestive diarrhoea the mucous membrane is irritated, as in catarrhal affections of other mucous membranes. In some persons the intestinal tract is unusually sensitive. Continental cookery often causes a little looseness in such on their first arrival in the foreign country. It is somewhat singular that English cookery has, so far as I have been able to ascertain, the opposite effect upon foreigners. Reflex diarrhoea, associated with dentition, should not necessarily be checked; it being, in many cases, a safety valve. It will usually subside when the approaching tooth has appeared. Its advent may generally be facilitated by lancing the gums; though this little operation should only be performed when absolutely necessary. Sympathetic Diarrhoea, as sometimes seen in the spurious hydrocephalus of infants in India, is a valuable index to the real condition of the little patient—requiring ample nourishment, with soothing and astringent remedies. Diarrhoea is occasionally associated with cerebral disease. Vicarious Diarrhoea equalises the circulation, and thus prevents any undue embarrassment of it, or of any important organ. It is valuable in checked menstruation, in the retrocession of eruptions, as in small-pox, measles, scarlatina, &c. Eliminatory Diarrhoea removes a poison from the system, though,
The page is a continuation of the topic of Diarrhoea from the previous page. It discusses the mischief and irreparable harm caused by diarrhea and how it is treated. The text mentions the role of quinine and other nerve tonics in treating malaria. It also addresses the symptoms and treatments of diarrhoea, including the importance of diet, and the use of milk, lime water, and specific foods and medicines. The text concludes by emphasizing the importance of treating diarrhoea early and by mentioning the use of astringent medicines.
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One of the best remedial agents amongst medicines is the bael fruit. It regulates the bowels, restraining diarrhoea where it exists, or promoting evacuations where there is a tendency to constipation. It seems to impart a healthy tone to the muscular coat of the intestines. The liquid extract of the British Pharmacopoeia, in 3 i. or 3 j. doses, answers the purpose fairly well; but it is not equal to the fresh preparations—bael jam is constantly seen on the breakfast table there—obtainable in India.

Alcohol in Diarrhoea.—Let us now inquire as to the supposed utility of alcoholic remedies in diarrhoea. Alcohol possesses three distinct characteristics—stimulating, irritating, and narcotising. The intestinal canal depends for its healthy activity upon the controlling influence of the nervous system. One of the effects of alcohol upon this system is to first excite, and then to depress, it; and, therefore, it might at once be said, speaking generally, that this agent is injurious in a disorder wherein it is essential to maintain the equilibrium of the peristaltic action. Alcohol is the more mischievous because, when first taken, it seems, in some cases, to be beneficial. The pleasant glow, imparted by a little brandy in a cup of warm tea when one is depressed by frequent calls to the water-closet, is very comforting; but, in case of congestion or irritation of the mucous membrane of the intestinal canal, these conditions may subsequently be made worse; inflammation even may ensue. Diarrhoea is a not unfrequent result of a drinking bout in those unaccustomed to fermented liquors. Where congestion follows a chill, alcohol is one of the worst remedies that could be given; whilst it is the one most commonly (by the public) employed. (In India the daily use of beer as a beverage is often recommended to those of a constipated habit.) Where the diarrhoea results from the presence of some irritating substance, alcohol will not get rid of it; nay, it may act upon it in a way that will make the substance more irritating than ever. If ulceration be the cause, as in enteric fever, fermented liquors are clearly inadmissible; as they are where the secretions are in excess, or defective, and require to be regulated: also, if the circulation be embarrassed by an enlarged organ, or tumour; or, if a digestive organ like the pancreas be diseased. Where the diarrhoea is colliquative, or where, owing to the absence of nervous influence, there is but little peristaltic action, and the fluid portion of the blood, passing mechanically into the canal, flows out of it in large quantities, as in cholera, alcohol is not only useless, but decidedly mischievous, as it tends to increase the coma caused by the retention in the blood of effete products that ought to be eliminated. In no form of diarrhoea—I speak from personal observation and experience—is
alcohol likely to be of any use whatever; and it would be, to us, with our present knowledge, matter for surprise how it should have acquired its widespread reputation, were it not that it is looked upon by the public as a panacea for almost every abnormal condition under the sun. I verily believe that, in the past, the death-rate from diarrhea has been increased by well-meant, but injudicious, treatment with alcohol. It cannot be too widely known, amongst the public, that diarrhea is frequently but a symptom of another disease, and that the blind attempt to check it may make the latter more complicated, and therefore more difficult of cure, than before. A vast amount of human and animal life is sacrificed annually to this disorder—it stands highest amongst the causes that produce the high mortality amongst the children of European soldiers in India:—and I venture to affirm, after long experience, that much of this mortality might, ceteris paribus, be lessened, if—I trust I am not presumptuous in expressing such an opinion—less reliance were placed upon medicines and more upon diet;—alcoholic remedies of every description being withheld altogether. Where stimulants are necessary, ether and ammonia may well take their place.

BRANDY AS A PROPHYLACTIC.

Darkness still lingers in many quarters in which it is inexcusable. We mean, of course, darkness on the subject of alcohol. Mistaken notions often crop up incidentally, as in the following paragraph, culled from the Spectator of December rst, on “The Difficulty of the French in Asia.” It says:

“They have some special liability to dysenteric disease and low-fever, which every doctor notices, which has never been explained, but which is, as we believe from the Tunis record, due to the most reckless carelessness about the water they consume. A small allowance of brandy, instead of their abominable vinegar, and peremptory orders not to drink water unmixed with it, would save half the invaliding which so weakens their expeditions; but in conscript armies human life is cheap.”

It is sad to see such a dogmatic assertion as to the value of brandy by a clever writer, who evidently knows nothing of the true state of the case. He is clearly unaware that brandy, unless, perhaps, much stronger than it would ever be given by any doctor except with “the most careless recklessness,” would not be of any service in destroying the fever-producing properties of bad water. To add brandy to this extent to every draught of water would cause men to drink such quantities of it as would inevitably produce disease and render them more liable t
Is Alcohol a true Stimulant? 65

dysentery, liver disease, and fevers of all kinds, besides so ruining their constitutions in the hot climate as to reduce considerably their chance of recovery. These statements are not mere opinions, they are based upon facts. Dr. Parkes found that fever and other diseases were less prevalent among the totally abstaining troops in the Ashanti expedition, in proportion to their number, than among the men who had only the small allowance of one wineglassful of rum. Alcoholic liquors are not only no protection against fever, but actually predispose to it. The same results have followed in India, where the total abstainers in the army have been shown again and again to have less disease and a lower mortality; the facts being so patent that total abstinence is becoming popular among the most thoughtful of the men.

It is, besides, a matter of notoriety that all the noxious properties of bad water can be at once and altogether removed by the simple precaution of boiling the water. This would be perfectly safe, and with an extra allowance of tea or coffee, if necessary, would be equally popular.

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Miscellaneous Communications.

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IS ALCOHOL A TRUE STIMULANT? *


When asked to prepare a short paper for this Conference on some medical aspect of the Temperance question, I was rather at a loss for a subject. Nearly every phase of that question has been thoroughly thrashed out, and general public, as well as medical, opinion brought to, if not an abstinence, at least to a moderate point. It seems, however, that a belief in the stimulating powers of alcohol still holds sway very largely, and is the chief reason given for the constant use of alcoholic drinks. Not there-

* Read at a Public Conference in connection with the Church of England Temperance Society Meeting at Leeds, 30th October, 1883.

fore till this belief, which is, I think, erroneous, is undermined and its foundations destroyed—and with that the last remnants of our old superstitions with regard to alcohol swept away—can we hope to induce people to give up the moderate use of wine, beer, and such-like. If alcohol be not a true stimulant, but a true narcotic in all stages, then the daily use of intoxicating drinks is not easy of defence; for it may be dangerous, and is certainly not free from risk. And it is a delicate ethical question whether we are justified in indulging in a habit attended by constant risk, and possible, if not probable, detriment to health.

In discussing the question, "Is
alcohol a true stimulant?" I do not intend to enter into minute physiological details, or to use elaborate scientific language—that would probably be wearisome to a general audience. My design is—and I shall try to carry it out—to take a general view of the case from a medical stand-point, if I may so express it, and to show that alcohol has no right to be called a stimulant in any true sense of the word.

It is obvious that in discussing such a question we must at the outset clearly understand what we mean by "stimulant." A stimulant, then, I take to mean something that heightens vital action, intensifies vital power, enlarges vital energy, renders more acute our various senses, and enables us to get through our work better and more readily than we could do without it. In Webster's Dictionary a stimulant is defined as something "producing increased vital action in the organism." But this, I think, is hardly a sufficient definition; for unless an agent produces an increase of energy and power as well as action it is not entitled to be called a stimulant. A crack of a whip may excite a horse to greater effort, and so increase vital action, but it is not thereby a stimulant. Sudden excitement and great emotion may rouse our vital action, but do not increase energy or power, and hence cannot be called stimulants. So is it with alcohol. Though it may seem to increase vital action and add new life, as evidenced by the quickened pulse and temporary excitement, yet these are but indirect effects of its primary action, and no new energy, no increase of power is gained by the use of small doses of alcohol.

No one denies that in large doses alcohol is a true narcotic poison; that is to say, it first blunts and finally destroys our sensibilities and energies. This it does in regular stages, attacking first that part of our nervous system known as the sympathetic, which is by some supposed to be the seat of our emotional faculties and to control our involuntary actions, and finally paralysing the brain. Observe anyone who has taken a large dose of alcohol, you will see his face flush, his eye brighten; probably speech will be readier for a short time, while his pulse will be quickened. All this is the result of a narcosis or paralysis of the delicate nerves controlling the arterioles and capillaries. These are thereby dilated and more blood admitted to the extremities of the circulation. Ere long the next stage comes on, the spinal cord being affected, as evidenced by the unsteady walk, inability to hold anything steady or to coordinate movement. Lastly the brain is affected, speech becomes indistinct, gradually increasing insensibility soon merges into a heavy, apoplectic sleep, and in some cases even death ensues. During all this it is well to observe that the bodily temperature is lowered, while the quickening of the pulse continues well on in those stages. Such, then, are the undoubted effects of large doses of alcohol on the human system, and those that differ as to the effects of small doses here stand on one platform and preach the same doctrine. Clearly then, in large doses, alcohol is not a stimulant.

How then stands the case as regards small doses? Some maintain that, in doses of from 1 to 1½ ounces, alcohol is a true stimulant; while others maintain that even in such doses, eye and in smaller, it is a true narcotic, and its stimulating effects illusory. And the more facts are learned, the more observation and experiments are made, all the more they tend to support the latter theory. Even at the first glance, does it not seem marvelous that any single drug should differ so mightily in its effects according to the dose, and that the difference should be not merely one of degree, but, in such a marked manner, one of kind? Such a theory is contrary to what, prima facie, we might look for, and accordingly we are entitled to expect that the evidence adduced in favour of the theory that alcohol in small doses is stimulant shall be clear and unmistakable.

The ablest upholder of this view of the action of alcohol was Dr. F. E. Anstie, in his work entitled "Stimulants and Narcotics." He maintained
that alcohol is true stimulant and true narcotic according to the dose. "It is," he writes, "a true stimulant and undistinguishable from the effect of the digestion of a true food." In another passage he writes, "A large dose is a true narcotic, causing more or less paralysis." Dr. Farquharson, in his "Guide to Therapeutics," says that "in moderate doses alcohol has a stimulating effect on the heart." Where such a practical difference in action and effect exists, one would expect the line of demarcation between stimulation and narcosis, and the doses producing each, to be well marked. As before stated, paralysis of the minute arterioles, as shown by the flushing of the face, is the first sign of narcosis. Dr. Anstie says that to produce the stimulating effects of alcohol, it must be given in doses just too small to produce this flushing of the face, and fixes the dose at 1/4 ounces of absolute alcohol. Yet, telling the result of its action on himself, he says, that poisonous effects—face-flushing, &c.—were caused by only 1/2 ounce, i.e., by just one-half the quantity he previously stated to be non-poisonous. Thus at the outset we are met with this difficulty in maintaining the dual theory of the action of alcohol, viz., accurately to fix the point below which alcohol ceases to narcotise. This being so, and considering that narcosis sometimes results without flushing of the face, it is too much to assume that the narcotic effects of alcohol are being produced without our realising it by doses considerably smaller than these, which beforehand would not have been supposed capable of causing poisonous effects? Later on I shall bring evidence to show that minute doses do cause narcotic effects. Meanwhile let us consider the proposition that alcohol in small doses is a stimulant.

We admit the quickening of the pulse, the increased action of the heart, and general sense of exhilaration produced at first by a small dose of alcohol. But that is transient, and the indirect result, we maintain, of its narcotic action. And the other effects are not those we would look for as the result of a true stimulant. We would expect, for example, the raising of the temperature of the body, if alcohol be true stimulant and food; yet the temperature falls. In an article in the 26th vol. of the "Practitioner," Professor Carl Binz says:—"The thermometer indicates no important rise or fall after small doses of alcohol. In quantities a little larger, but still sufficiently moderate not to cause drunkenness, it causes a distinct fall, lasting half-an-hour or more; while after a dose powerful enough to inebriate, a still more decided lowering of the temperature, from 37⁰ to 3⁰ Fah. is observable, which lasts several hours. Dr. B. W. Richardson gives testimony to the same effect, that except for a very short period of excitement immediately after the administration of alcohol, there is a steady fall in temperature. And besides this scientific evidence, we have the testimony of travellers in the Arctic regions, that not only is alcohol no help to enduring the bitter cold—which surely it would be did it stimulate and raise the bodily heat—but that those that indulged in it were the first to fall under the effects of the extreme cold. This is hardly the result we would look for from a true stimulant.

Again, Dr. Anstie says alcohol is indistinguishable in its action from the effects of a true food. Surely then it must produce effects similar to those produced by other foods. Foods are roughly-classed as nitrogenous or flesh-forming, and carbonaceous or heat and force-producing. The former all contain the chemical element nitrogen, the latter contain carbon and hydrogen. Now alcohol contains no nitrogen, hence it cannot be a flesh-forming or body-building food. Is it then a heat-producing and force-giving food? Alcohol is changed within the body; not all the alcohol taken is eliminated as alcohol. That is now an accepted fact. Destructive decomposition of the alcohol is effected; but the results produced are not like those of a true heat-producing food. The bodily temperature is lowered, and the amount of CO₂ given off by
Is Alcohol a true Stimulant?

the lungs lessened, as proved by Dr. E. Smith. Further, we would expect that, if alcohol be a food, it would, like other foods, increase the capacity for work, and enable one to do more and better work with it than without it. But it does not do so. The most complete and convincing and scientifically correct experiment on this subject, is the oft-quoted one conducted by the late Dr. Parkes of Netley. I need not state the accurate details, it will be enough if I give the gist of the experiment as briefly as possible. Dr. Parkes got several workmen in good average health, all very much of an age, and living, as far as he could control such matters, under same conditions of house-room, diet, and air. These he divided into two gangs, and each gang had exactly similar work to do—the difference being that one gang had a certain quantity of alcohol per diem allowed, while the other worked on teetotal principles. For the first hour or so of work, the alcoholic men went ahead, but the first spurt being over they began to flag, and the teetotalers gradually crept up to, soon passed, and, before the day's work was done, were far ahead of the alcoholic gang, who failed towards the close of the day. To render the experiment more exact and conclusive, Dr. Parkes then reversed the gangs—the former teetotal becoming the now alcoholic gang and vice versa. The result was still the same; the teetotal workers in the end beating those who had their allowance of alcohol. Such a result is alike surprising and impressive—surprising because different from what we, as the result of our education, might expect, and impressive as clearly showing that ordinary labour is not assisted by alcohol. But some may say that although alcohol is no help to us in our ordinary work, yet at times of great exertion it will be useful. To such a statement I would oppose facts like the following. Edward Payson Weston, whose great pedestrian feats are surely examples of excessive exertion and endurance, tells us that alcohol in no way helps him. Hanlon, the champion sculler, is an abstainer, and finds that alcohol cannot give him extra energy, at times when he might want it. Again, what is called training for sports, such as boating, racing, &c., is gone into to get into condition and gather strength for great efforts. Yet whatever the habits of a competitor at ordinary times, he finds it necessary to leave off all alcohol during the training period, and, till after the race, or whatever it may be, is over. Surely if alcohol were a true stimulant, it would be specially useful at such times as these. Nevertheless experience teaches us that it is not so, and that its effect is not stimulating, but rather enervating. Still further, we have the testimony of many men, whose work cannot be called light, against the idea that alcohol aids them. Sir A. Clark, in a speech delivered by him, 6th January, 1882, says:—“I am bound to say that for all honest, enduring, fruitful work, alcohol never helps a human soul. Never, never.” And again in the same speech, after recounting his day's work, lasting often from 8 a.m. till 10 p.m., he goes on to say:—“If I took two glasses of claret during the day I could not do my work. It would take away the acuteness of my perception, the keenness of my interest in my cases, bias my judgment, and altogether unfit me for doing the work I had to perform.” Then he sums up his experience as follows:—“That is my testimony as to the effect of alcoholic liquors upon health and upon work, namely, that for all purposes of sustained, enduring, fruitful work, it is my experience that alcohol does not help, but hinders it.” Next I take the testimony of Dr. A. Carpenter. In a speech during a discussion on a paper by Dr. Norman Kerr on the medical aspects of the alcohol question, read at the British Medical Association meeting at Worcester, in 1882, Dr. Carpenter used these words:—“When I took alcohol day by day I could not do anything like the amount of muscular or mental work that I did when I gave it up.” Lastly, under this head, I shall quote the authority of Dr. B. W. Richardson. The following passage is from the fourth of his Cantor lectures;
"I would earnestly impress on you that the systematic administration of alcohol for the purpose of giving and sustaining strength is an entire delusion. I am not going to say that occasions do not arise when an enfeebled or fainting heart is temporarily relieved by the relaxation of the vessels which alcohol, in its diffusion through the blood, induces; but that this spirit gives any persistent increase of power by which we are enabled to perform more sustained work is a mistake as serious as it is universal." These are the testimonies of three leading medical men, and not one of them, it seems to me, gives any countenance to the stimulating effects of alcohol, or to its good effects. It is true Dr. Richardson says that there may be occasions when a fainting heart is temporarily relieved by a small dose of alcohol, but that is not by direct action on the heart, but by relaxation of the capillary blood-vessels. It is the result, in short, of narcosis of the sympathetic nervous system. The paralysis of the inhibitory nerve to the heart produces seemingly the same effect as stimulation of the accelerating nerve. But the difference is vast and essential, and, once more to quote Dr. Richardson: "What is called stimulation or excitement is in absolute fact a relaxation, I had almost said paralysis." (Pop. Science Rev.)

Summing up the foregoing evidence the conclusion is this, I think, that the theory of the stimulating effects of small doses of alcohol is of a shadowy and visionary nature. Its proof rests alone on the immediate and very transient effects produced in the organism generally, and its effects on the pulse. These effects, however, are most probably the result, not of true stimulation, but really of an absolute narcosis, almost paralysis. And the abiding effects of the administration of alcohol are not those we might expect, were it truly stimulant. There is therefore strong negative proof against the proposition that alcohol in small doses is a stimulant.

In discussing that proposition, however, we are not limited to such negative proof. There is, I think, strong and direct evidence of the true narcotic action of even minute doses of alcohol upon vital activity and the organism generally. The simplest form of life is the cell, a minute particle of protoplasm. This is, so to say, the ultimate unit of all life, and we are told by Professor Allman it is probably alike, whether in animal or vegetable life. If we take a red-blood corpuscle—which is a mere cell—we find that the action of alcohol on it is to cause it to shrivel up and thus to destroy its vital function—at any rate to impede it. Again, the effect of weak solutions of alcohol on vegetable life has been demonstrated by Dr. J. J. Ridge, the results being given in the Medical Temperance Journal for January, 1880. He sowed a quantity of cress seeds—a rapidly germinating plant—in separate lots in similar mould. These were treated in various ways, some being moistened with pure water, some with weak solutions of alcohol of different strength; others were subjected to the vapour, some of water, some of various strengths of alcoholic solution. The strengths of the solution varied from 0.25 per cent. to 10 per cent. of rectified spirits to water. The result of the experiment was to prove this: that the growth and development of the seed were never stimulated but always hindered and dwarfed by the alcoholic solutions; and the more concentrated the solution, the more marked was the dwarfing. All this goes to prove that in the lower forms of life alcohol exerts a depressing effect; that it does not stimulate but hinders vital action and growth. And if, as Dr. Allman says, there is no dualism in life, we are fairly entitled to assume that the action of alcohol upon the highest organism—man—will be of a similar depressing and dwarfing nature.

We are not confined, however, to this reasoning from analogy. There is direct proof that upon man, upon his bodily powers generally as well as his individual senses, alcohol has a depressant and narcotic effect. I recollect that once, during a railway journey conversation, I obtained what seemed good, because unbiased and
unconscious, evidence to this effect. There were, besides myself, four travellers, and the conversation turned upon alcoholic drinks. One gentleman remarked that he dared not take even a single glass of beer to his dinner—taken early—for if he did he was sure to feel heavy and sleepy and unfit for work during the afternoon. His remark was endorsed by similar testimony from the other three travellers. A single glass of ale contains less alcohol than Dr. Anstie’s stimulating dose, and yet here is testimony—and from non-abstainers—that its effect was quite the reverse of stimulating, was truly narcotic. There is a story told of a celebrated violinist, that before going on the platform to play at some public performance he was asked to have a glass of wine. "I’ll have it after I come off," he said. When asked why he would not have it before playing, he said, "If I take it the perception of my fingers is blunted, and I don’t feel the nicety and delicacy of touch necessary to bring out the fine tones requisite to the piece of music." Here, again, is a narcotic effect from a small dose of alcohol. Drs. Nicol and Mossop, of Edinburgh, found that after two drachms of rectified spirit—less than a quarter of an ounce of absolute alcohol—the blood-vessels of the retina were paralysed and deeply congested, and vision rendered hazy and very indistinct. Dr. J. J. Ridge, of Enfield, with a view to determine the effect of small doses of alcohol on the nervous system, conducted the following experiments on those nervous functions that are more easily protected during experiments from extraneous and fallacious influences. These functions were the sense of touch, the sense of weight, and the sense of sight. Feeling was tested by means of an instrument having two fixed points, between which was a third point movable at will in a straight line between the fixed points. These were concealed from the vision of the person experimented upon, but the forefinger could touch them. The forefinger was placed on these points, and the movable point moved by the subject till he thought it equidistant between the fixed points, the movement being registered on a dial invisible to the subject. Five persons, all abstainers, were experimented on, and five experiments, both before and after the giving of alcohol, in each case made. The result arrived at was this: Before alcohol was given the average distance of the movable point from the exact centre was represented by 27 degrees, while after two drachms of pure alcohol, the distance was represented by 37°9 degrees. Thus feeling was deadened by a small dose of alcohol. The sense of weight, or as it is called the muscular sense, was tested by having two exactly similar levers, one with a fixed weight on it, the other with a movable weight. The person experimented on was required to move the movable weight along the lever till both weights seemed alike, when of course the distance of the weights along each lever ought to be exactly the same. In this case ten persons, seven abstainers and three non-abstainers were experimented on, five trials being made in each case before and after the giving of alcohol in doses varying from 3/8 to 4 drachms. The result was, that before the administration of alcohol, the distance between the weights was on the average 5'105 millimetres, while after it was 7'095 millimetres. Here again was a deadening of the sense tested. Lastly, vision was tested by noting the distance at which type of a certain size could be read before taking alcohol, and then the distance at which different words in type of the same size could be read after taking alcohol. Again ten persons, two non-abstainers and eight abstainers were tested, the quantity of alcohol given varying from 3/8 to 4 drachms. The result was, that before taking alcohol the type could be read at an average distance of 9'375 feet, but after the alcohol the average distance was 8'538 feet. In this case also five experiments were made in each case before and after the giving of alcohol. Once more there is a decided and distinct deterioration in the particular function tested. The doses given in every case are much below
Is Alcohol a true Stimulant?

the stimulating dose of Dr. Anstie, below even the physiological maximum of Sir A. Clark. Yet there is irrefragible proof that a true narcosis of the nervous system was produced. The results obtained by Dr. Ridge, I have in a few instances verified, not indeed with the same scientific care and accuracy, but in a general way. In addition I have found that the sense of hearing, as roughly tested by the distance from the ear at which the ticking of a watch can be heard, shows distinct signs of impairment after doses of from one to two drachms of absolute alcohol. Ample proofs have been adduced, I think, in support of the statement that even in doses smaller than what is commonly called a stimulating dose, alcohol is still a true narcotic poison.

What then is the conclusion of the whole? We have tried to prove that the theory of the stimulating effects of alcohol and its food action in small doses rests on evidence of a very meagre nature, while there is much scientific and general evidence to show that alcohol produces results not thus ass, but rather contrary to, what we would expect were it a true stimulant and food. Further, we have brought evidence, strong and positive, to prove that even in minute doses alcohol exerts a depressant influence, and has a true narcotic poisonous effect on life generally and on the human system. If the proofs are sound and well-grounded, as I venture to think they are, clearly alcohol has no right to be called a “stimulant,” and to give it that title is an abuse of language. From first to last it is a true narcotic, and its seemingly stimulating effect only a secondary and transient result of its true narcotic action. It produces no new force on the body, gives no new energy or life; it only induces an expenditure of force within the body at the body’s own expense, and so causes depression and exhaustion. Dr. S. Wilks writes as follows, in the “Popular Science Monthly” for 1879:—“If most people will analyse their sensations after the imbibition of any alcoholic drink, they will soon discover that to describe the effect produced upon them by it as a stimulant is a misnomer; and that, consequently, the employment of the word almost begs the whole question. . . . In a word, alcohol for all intents and purposes may be regarded as a sedative or narcotic rather than a stimulant.” This is I believe the true theory of the action of alcohol—that it is at all times and in all stages narcotic, not stimulating. And deeming it of vast importance that this belief should spread and usurp the place now held by former and erroneous ideas if temperance is to advance on the solid and steadfast ground of intellectual assent, I have prepared this paper, imperfect though it be, in the hope that perhaps some of my hearers may be convinced and converted, while others per chance will find new and substantial grounds for the principles and practice of abstinence they have already adopted. If such be the result of this small effort, I shall indeed feel that my labour has not been in vain.

Strong Drink and Disease.—The president of the Connecticut Mutual Life Insurance Company says:—“The degree to which many diseases commonly referred to malaria, overwork, and other vague, general scapegoat causes, are actually grounded in what would almost invariably be called a temperate use of drink by persons of reputed temperate habits, would be incredible to the mass of people unaccustomed to careful observation and comparison of related cases.”
THE COMPARATIVE DEATH-RATE OF TOTAL ABSTAINERS AND MODERATE DRINKERS,

As shown by the Records of Life Insurance Companies.*

By C. R. Drysdale, M.D., Senior Physician to the Metropolitan Free Hospital of London.

The following statistics were obtained by me a few months ago, in order to ascertain more clearly whether the use of alcohol in daily life was or was not dangerous, even when partaken of in moderation, to the average human being. The figures, as will be seen, tend to prove that moderate indulgence in alcoholic drinks is probably dangerous to health, and will, I believe, compel all who study the medical sciences to discourage the use of wine, beer, and spirits among the masses. Nay, they teach us that we must absolutely forbid such drinks to all who wish to attain to length of days; and that henceforth we ought to place alcohol, as we do chloroform, ether, and opium, and as spirits used to be placed in Scotland, only in the hands of the druggist.

The effect, indeed, of alcohol in causing disease has been long recognised. Of late, several attempts have been made to estimate the proportion of deaths caused by it to the whole number of annual deaths in England and France. Thus Dr. Lancereaux, in 1865, calculated that one death in every twenty taking place in Parisian hospitals was due to alcohol. In the United Kingdom of Great Britain and Ireland Mr. W. Hoyle says that there is a sum of about £125,000,000 sterling annually expended on drinks containing alcohol, and Dr. B. W. Richardson, Dr. Norman Kerr, and a committee of the Harveian Society have calculated that about 40,500 deaths are caused by drinking yearly, i.e., about one in nineteen of all deaths are caused by the use of alcoholic liquors. If this be conceded, alcohol seems to be one of the most powerful agents in this country for removing the victims of our over high birth-rate, i.e., it is a positive check to population. Dr. Lees gave some statistics at the Bradford Jubilee meeting which showed that, on an average of the eight years 1870-77, the Bradford Rechabites S.U. had actually experience four days two hours of sickness, against thirteen days ten hours passed by the Oddfellows, and a death-rate of one in 141 against one in 44. The consequence was that the Rechabites paid only 5s. 9d. per year, as against 13s. 1d. paid by the Oddfellows. In the Colne district Dr. Lees found that the average sickness of the Rechabites for ten years had been five days eighteen hours, and their average death-rate 9'9 per 1,000, whilst the average rate of sickness for the Wesleyan Friendly Society (non-abstainers) was ten days nineteen hours, and the average death-rate 13'9 per 1,000, which gives a gain in favour of Rechabites of five days one hour per member, and a lower death-rate of 4 per 1,000.

The following letter will show that this most important fact is becoming well recognised by our life insurance societies. They were sent to me in reply to queries addressed by me to the various secretaries or managers this summer.

The secretary of the Emperor Assurance Society, Limited, wrote thus, at the suggestion of Mr. Frederic Smith, of Ludgate Hill:—"52, Cannon Street, London, E.C., June 23, 1883.—Dear Sir,—You will find we make an immediate reduction on the premium equal to an immediate bonus of from £5 to £8 on an assurance of £100 to total abstainers, that is to say, the difference of the premiums

* A paper read at the quarterly meeting of the British Medical Temperance Association, November 27, 1883.
would secure that amount more assured. In addition to the offices named by you (the Briton and the Temperance and General Provident Institution) you will find that the Whittington, London, Edinburgh and Glasgow, and Sceptre give advantages, and I think there are others.—(Signed) Ebenezer Clarke." The following is the passage in the report referred to by Mr. E. Clarke:—"The directors having had repeated applications from active and influential members of temperance societies in England and Scotland to insure the lives of total abstainers at reduced premiums, whereby securing them an immediate bonus, have resolved to do so, the more readily that many years since the directors deemed it proper to secure for total abstainers from intoxicating liquors the benefits resulting from their assumed longevity, and established a section in which they are kept apart, and receive their additional profits. The wisdom of this step is daily becoming apparent, the experiment having proved greatly in favour of abstainers, and the public press is awakening to the fact that abstaining assurers are better lives than non-abstainers."

The Commercial World, a London financial paper, in commenting upon the report of an assurance company taking temperance lives as a distinct branch of their business, remarks:—"We may add that if these statistics are reliable as guides, the lesson they teach appears to be, that more life, at least greater length of days, is to be got out of abstinence from alcoholic stimulants (other things being equal, which is here assumed) than out of their moderate use. For it must be borne in mind that the comparison is between the results of abstinence, on the one hand, and the moderate use on the other. The excessive use is not in question. Life, in the objective sense, consists of a bundle or aggregate of habits; and these statistics, as it seems to us, prove, as nearly as may be to demonstration, that the non-use of alcoholic (and the mode of life commonly associated therewith) is in an aggregate of cases, or, in other words, as a rule, most favourable to longevity."

Mr. Alfred Bowser writes from the Whittington Life Assurance Company:—"London, June 26, 1883. Dear Sir,—I beg to inform you that this company makes no difference in rate of premium between abstainers and non-abstainers. The only difference is that, by keeping a separate account, the teetotalers get a larger bonus than the other section. I send herewith copy of a journal issued by the company, and may refer you to some remarks of mine on page 25."

The remarks on page 25 are headed "Special," and treat of increasing assurance with addition to the sum assured in lieu of bonus. A person insuring under this table will have (says Mr. Alfred Bowser) a policy upon which the company will believe to pay the sums assured whenever death may happen; and with this important provision, that after the policy has been five years in force, the premiums paid to the company in the following years will be added to the sum assured. This form is evidently made for persons like abstainers, for in page 10 of the journal it is said:—"The mortality among those who abstain from the use of alcoholic liquors being less than among ordinary lives, total abstainers are insured in a separate section; the valuation of which for profits is made apart from that of the general department, and determines the amount of the bonus in that section. The rates of premium are the same as in the general section."

Mr. John Phillips, secretary of the Sceptre Life Insurance Association (Limited), 40, Finsbury Pavement, writes:—"June 24, 1883. Dear Sir,—I enclose particulars of the mortality experience in our temperance section. We charge abstainers the same premium as others, but they get increased profits, as explained in prospectus." On page 8 of the pamphlet issued by the company, is a paragraph, headed "Temperance Section," which reads thus:—"The experience of the past thirty years having proved that the mortality among those who
The Comparative Death-rate of abstain from the use of alcoholic beverages is less than among ordinary lives, and such persons being entitled to the benefits arising therefrom, total abstainers are assured in a separate section, the profits of which are kept entirely distinct, and may confidently be expected to average considerably more than those in the general department. For the six years ending December 31, 1881, the expected claims in the general section were 373, and the actual claims 257, or 77 per cent. of the expectancy. In the temperance section the expected claims were 130 and the actual claims 64, or only 46 per cent. of the expectancy."

In a leaflet issued by the Sceptre Life Association, we find that "Attention is invited to the remarkably low rate of mortality experienced by the Sceptre, both in the general and temperance sections, but especially in the latter. For the seven years ending December 31, 1883, the expected claims in the general section were 438, and the actual claims 335, or 76 per cent. of the expectancy. In the temperance section the expected claims were 165, and the actual claims 73, or only 44 per cent. of the expectancy. It will be observed that while the general section does not show a high rate of mortality, as is usual with the offices having the two divisions, on the contrary, through the special connections of the Association, by far the largest portion of the business is obtained from persons who are members of some Christian Church, and, if not total abstainers, are very abstemious and regular in their habits." And it adds a most important remark: — "Proposals for assurance on the lives of publicans or persons engaged in the liquor traffic, are not accepted by the directors on any terms." It is well known by the works of Dr. Guy, Dr. Richardson, and others, that such lives are the worst of all in society.

At a meeting of the Briton Life Association, Limited, on June 14, 1883, reported in the Bullionist, page 794, Dr. Benjamin Ward Richardson is said to have thus expressed himself: — "As to the total abstinence ques-
tion, they had tried now for a year the effect of giving total abstainers' insurances a small premium, with the result that so far the system had worked exceedingly well. There was not the least fear, commercially, in this direction. Every day those who were observing the question, quite free from prejudice or any fanaticism with regard to total abstinence, but standing purely on the ground of observation, natural phenomena, and facts, had fresh proofs that the duration of life was materially increased by total abstinence; and he would even go the length of saying that this consideration was worth more than 30 per cent. the limit to which as yet they were permitted to go."

Facts like the preceding have been so well studied by those interested in life assurance, and the profits to be secured by that important form of thrift, that we have seen this very year, 1883, the prospectus of a new company launched with the name of the Blue Ribbon Life, Accident, Mutual and Industrial Insurance Company, Limited, one of the directors of which I see is Mr. H. Lankester, of Leicester, a well-known total abstainer. Whilst assigning reasons for the formation of this new venture, the prospectus says that it is a well-ascertained fact, as demonstrated by institutions which have especially dealt with insurance of the lives of total abstainers, in connection with life assurance, that total abstainers are entitled to special benefits in consideration of their greater longevity. Hitherto the advantages offered to total abstainers by institutions dealing with this branch of business have been prospective, taking the shape of larger bonuses than those received by non-abstainers. This company proposes to make these advantages both immediate and prospective — immediate, by granting policies at premiums based on the actual data available as to the actual mortality of total abstainers, which will therefore be less than those actually charged; prospective by granting bonuses out of the profits earned at each actuarial investigation.

Actuaries and total abstainers have
Total Abstainers and Moderate Drinkers.

long watched with interest the statistics of the Temperance and General Provident Institution. This company has for many years kept a separate account of the mortality of total abstainers, and publishes yearly a most important synopsis of the results of this experiment:

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<th>Temperance Section</th>
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<td>Total for 16 years from 1866 to 1881 inclusive ...</td>
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Put in another form, the results are stated to be as follows:—In the general section during the sixteen years the widows and other legatees were expected to put in claims for £833,792, whilst the actual claims amounted to £862,058, being an excess of £28,266 over what might have been expected to be laid aside for them. In the temperance section the widows and other legatees were expected to put in claims amounting to £481,000, whereas the actual claims made reached only £321,840, thus leaving in the hands of the company £159,160 of the sum which might have been expected to be required to meet them.

In the "Handbook of Temperance History," published in 1882 by the National Temperance League, it is further mentioned that the United Kingdom Temperance and General Institution insures about 20,000 in its general section and about 10,000 in its temperance section, and that the quinquennial bonuses in the temperance section have been 17 ½ per cent. greater than those in the general section.

Attention has lately been called to these facts in America, and the insurance press, commenting on the statements which have been made, says that if they are correct, "those who abstain from the use of liquor ought to gain the advantages of it in lower rate of insurance. It is not fair to load them with the burden assumed by those who indulge in alcohol."

Dr. Norman Kerr, in a paper read at Worcester in 1882, at the meeting of the British Medical Association (Medical Temperance Journal, 1882,
The Comparative Death-rate of

p. 28), mentions that Colonel Sykes more than thirty years ago found among the troops of the Madras Army five deaths among 450 abstainers, 102 deaths among 4,318 temperate men, and forty-two deaths among 942 intemperate. This was in 1849. The total abstainers had thus a death-rate in that year of 11.1 per 1,000; the temperate men, one of 23.1; and the intemperate 44.5 per 1,000 in Hindostan, which shows how extremely dangerous it is to partake of alcohol in hot climates. That observer also found the number of admissions for sickness among total abstainers was only 107 per 1,000 less than among the temperate, a fact which proves that the disease in the former group took a much milder form than it did among the latter.

Dr. Norman Kerr also mentioned (loc. cit.) some facts from the actuarial report on the sickness and death of members of the London Grand Division of the Order of the Sons of Temperance. The results of the observations were, he said, derived from observations comprising 11,016 years of life, in which the members had been exposed to sickness and mortality. The following table affords data for a comparison between the experiences of the Sons of Temperance and that of three other groups of members of two large friendly societies:

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<tr>
<th>Sons of Temperance</th>
<th>M. U. Experience, Rural Towns and City Districts, 1866-70</th>
<th>M. U. Experience, Rural Districts, 1866-70</th>
<th>Foresters, 1871-5</th>
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<tr>
<td>Weeks.</td>
<td>M. U. Experience, Rural Towns and City Districts, 1866-70</td>
<td>M. U. Experience, Rural Districts, 1866-70</td>
<td>Foresters, 1871-5</td>
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<td>7.48</td>
<td>Weeks, 26.20</td>
<td>Weeks, 24.68</td>
<td>Weeks, 27.66</td>
</tr>
</tbody>
</table>

In drawing conclusions, it is noted, from that table two reservations must be borne in mind—(1) The observations as regards the Sons of Temperance were of a comparatively limited extent, embracing but 11,016 years of life, while in the records of the Manchester Unity were comprised 1,321,048 years. The law of average had therefore less chance of fully manifesting itself among the abstainers than among the non-abstainers. (2). The Order of the Sons of Temperance having been established only in 1867, many years later than the other societies, compared with it, its members had not all had time to reach the limit of their age; so that here again, through deficient observations, the law of average did not have fair play. But, after ample allowance for these drawbacks, the comparison showed a very great advantage on the side of total abstinence. "It was probable," said Dr. Kerr, "that complete materials would show at least three times as much sickness among the Odd Fellows and Foresters as among the Sons of Temperance."

At a meeting of the Whittington Life Assurance Company in September, 1881, the manager, Mr. Alfred Bowser, is reported to have thus spoken ("The Whittington," issued by the Company, September, 1881, page 256):—"There is one other feature of great interest brought out by our recent investigation into the affairs of the company. I refer to the separate account kept by the company with persons who abstain totally from the use of alcoholic beverages. It is this, that during the past three years the deaths in this branch of the company's business have been at the extremely low rate of twenty-three per 1,000; while in the general section the death-rate for the three years is fifty per thousand. In other words,
the experience of the office shows that during middle life (for the assureds in the Whittington are far from old on the average) the death-rate of teetotalers is less than half that of the general section. Mr. Chairman, I am not a teetotaler (he adds), but I am bound to state the fact, and cannot help expressing both my astonishment and gratification at this result, and I congratulate the teetotalers on obtaining a large bonus in consequence. At the same time it would not be right to pass by the fact that these are circumstances which tend to modify the full effect of this difference in mortality on the amount of bonus; but I will not discuss these points now. I should like to see a large accession of business to our temperance section."

The next witness I have to call is Mr. Wilfred Bowser, manager of the London, Edinburgh, and Glasgow Insurance Company. That gentleman writes:—"10, Cannon Street, June 29, 1883,—Dear Sir,—I am in receipt of yours, dated 25th inst., and send you herewith our prospectuses. On page 11 of the book prospectus you will find our regulations as to the temperance section in the life department. On page 4 of the accident prospectus you will find a reference to the special bonus allowed to total abstainers in the accident department. These two matters are dealt with more fully in the address to total abstainers also sent herewith. I may mention that this was the first company to offer special advantages to total abstainers ensuring against accident.—(Signed), WILFRED BOWSER."

The paragraphs referred to by Mr. W. Bowser are as follows:—"Assurers who are total abstainers from alcoholic drink of one year's standing pay the same rates of premium as non-abstainers; but they are assured in a separate and distinct section the profits of which (ascertained separately from the general business of the company) are divided solely among the members of the temperance section. It being an ascertained fact that the rate of mortality of total abstainers is less than that of the general public, the former derive the entire benefit, at the periodical division of profits, of their superior health and longevity. It is important to observe that persons who are the least intemperate are not assured by this company upon any terms."

In the prospectus of the Accident department of the London, Edinburgh, and Glasgow Insurance Company, it says:—"A policy-holder who is and continues to be a total abster from alcoholic drink is allowed after three years a further reduction of 7½ per cent., making 20 per cent. in all, by way of bonus upon the above conditions." The address to total abstainers is as follows:—"Recognising the important influence which total abstinence from intoxicating drink has upon the mortality of assured lives, and believing that total abstinence will be found to exert a similarly favourable influence upon the claims arising under accident insurance policies for both fatal and non-fatal injuries, the directors of the Company have determined to introduce a temperance section in both the life department and in the accident department, by reason of a considerable reduction in the proportion of claims and the consequent increase in the profits of this branch of insurance business.

"In the life department, assurers who are total abstainers from alcoholic drink of one year's standing pay the same rates of premium as non-abstainers; but they are assured in a separate and distinct section, the profits of which, ascertained separately from the general business of the company, are divided solely among the members of the temperance section. Total abstainers thus derive the full benefit at the periodical division of profits of their superior health and longevity. It is important to observe that persons who are the least intemperate are not assured by this company on any terms.

"In the accident department a policy-holder, who is and continues to be a total abstainer from alcoholic drinks, and has been insured for three consecutive years without change, is
allowed a reduction of 20 per cent. (instead of 12½ per cent. allowed to
non-abstainers) on the fourth and
future annual premiums so long as
the profits of the company in the
temperance section of the accident
department admit of such abatement,
and irrespective of any compensation
which may have been paid to him.
In introducing for the first time a
temperance section into accident in-
surance business, thereby showing the
willfulness of the company to share
the larger profits expected to be de-
ersed from transactions with those of
the assured who are total abstainers,
the directors have received the cordial
approval of many leading temperance
advocates."

An abstract of these opinions was
published by me in the Temperance
Record, and on reading it the manager
of the Lancashire and Yorkshire Accident Company (Limited) wrote
to the editor as follows:—"33, Prin-
cess Street, Manchester.—Dear Sir,
—My attention has been directed to
a report in your valuable paper of
August last of the meeting of the
British Medical Association at Liver-
pool on the 2nd, when Dr. C. R.
Drysdale read a paper on the com-
parative death-rates of total ab-
stainers, and he is stated to have
said that he had a letter from the
manager of a certain company stating
that his company was the first to
offer special advantages to total ab-
stainers insuring against accidents.
In justice to my directors I cannot
but join issue therewith, for in your
publication of January 17, 1881, a para-
graph appeared headed, 'Another Sign
of the Progress.' The following has
been issued by the Lancashire and
Yorkshire Accident Insurance Com-
pany, whose headquarters are in
Manchester, &c., &c. They have de-
termined to make an allowance of 10
per cent. on the premiums, in addi-
tion to the ordinary bonus to such
policy-holders who on renewing their
insurances deliver to the company a
declaration that they have abstained
from all alcoholic liquors during the
previous twelve months. I may add
that previously, on November 19,
LEGISLATION FOR HABITUAL DRUNKARDS.*

By Norman Kerr, M.D., F.L.S.,
Honorary Consulting Physician to the Dalrymple Home for Inebriates; Honorary Secretary Habitual Drunkards Legislation Society.

The movement on behalf of legislation for habitual drunkards appeared to have been first proposed in this country in 1839 in his popular prize essay "Bacchus," by his friend the veteran reformer, Dr. R. B. Grindrod. This clear-headed and far-seeing pioneer of temperance then recognised what many seem to be in total ignorance of—the physical aspect of intemperance, and the diseased condition of the confirmed inebriate. Favoured by an approving reference in the report of the Scottish Lunacy Commission in 1857, important papers by Sir Robert Christison and others in 1858, the necessity for legislation for such diseased inebriates gradually became apparent to intelligent medical men and social reformers, till Dr. Dalrymple, M.P., brought his first Bill before the House of Commons in 1870; and, following on valuable evidence before a Select Committee, in 1872, his second Bill. After the deeply lamented death of Dr. Dalrymple, the work was carried on by a joint committee of Social Science and British Medical Associations, since merged into a special Association for the promotion of Legislation for the Control and Cure of Habitual Drunkards, and notably by the late devoted Stephen Alford. The latter association drafted a bill, which was taken charge of by Dr. Cameron, M.P., and Earl Shaftesbury, in the Houses of Commons and Lords respectively.

Dr. Dalrymple's original bill provided for the admission into retreats of habitual drunkards:—(1) Voluntary.—Simply on their own written request that they were such, and that they desired to be admitted. (2) Compulsory.—On the request of a near relation, friend, or guardian; on the certificates of two duly qualified medical practitioners, and the affidavit or declaration of some credible witness. The bill also provided for the establishment of inebriate reformatory, or sanitaria, or refuges, and for the maintenance of habitual drunkards therein, to be charged on the rates; for the appropriation by boards of guardians of a special place for habitual drunkards; for the committal of a pauper habitual drunkard to a retreat on production of two medical certificates for a limited period; and, without certificate, of any person convicted of drunkenness three times within six months.

The bill introduced by Dr. Cameron in 1877 was much on the same lines, but leaving it to a jury instead of a magistrate to decide whether any person for whose compulsory committal to a retreat application was made was an habitual drunkard; and with the additional proviso that any one without lawful authority taking into a retreat, or giving to any person detained therein any intoxicating liquor or sedative or stimulant drug should be deemed guilty of an offence against the Act.

The opposition to these proposals was so resolute that the sponsors of the bill, in order to insure its passage, were compelled to withdraw many of them. The final issue, for which great praise for their tact and perseverance was due to Lord Shaftesbury and Dr. Cameron, was the enactment of the Habitual Drunkards Act, 1879, a measure far short of what the friends of habitual drunkard legislation asked for, but still of the highest importance as the affirmation of a principle.

The Act, unless renewed, would expire in 1889. Imperfect and incomplete as it was, it had not had a fair trial. As the period during which the Act was to be in operation was

* The substance of a paper read at the Social Science Congress, Huddersfield, October 8, 1883.
too short to warrant the outlay of capital as a commercial venture, only a few licenses for retreats had been applied for. The Inspector of Retreats, Dr. Hoffman, in his last published report, stated that but two licensed retreats were then in existence.

It had therefore been felt that an effort should be made to establish an Inebriate Institution, from which none of the friends or promoters could derive any profit. Accordingly, the Dalrymple Home Association was formed, with Lord Shaftesbury as president, and this association had purchased a commodious house with four-and-a-half acres of grounds at Rickmansworth. This home had been licensed under the Act, and was about to be opened. It was designed, if sufficient funds be forthcoming, to be a philanthropic institution, conducted without profit and with the utmost publicity, in order that the Habitual Drunkards Act, with all its imperfections, may have an open, disinterested, and fair trial.

The Inspector of Retreats, Dr. Hoffman, in his second report, stated that “such an institution, charging moderate fees, standing in extensive grounds in a healthy situation, under the care of an experienced medical man, with an independent remuneration, is, in my opinion, much needed.”

The very limited number of habitual drunkards whom Dr. Hoffman reports as having availed themselves of the Act, and who form but a small proportion of the inmates of the licensed retreats, prove the Act thus far practically to have been almost a dead letter. Even if the Dalrymple Inebriate Home had all the success its most sanguine supporters wished, a full measure of success under the conditions of present legislation could not be anticipated. It ought to be noted that the inspector reports some of the cases noted by him in retreats as having much improved.

They had thus seen that there were three kinds of defects in the existing state of the law, one relating to the licensees of retreats, another to the patients, and a third to the community and the friends.

I.—AS REGARDS THE LICENSEES.

The exceedingly brief term during which the present Act was to be in operation had proved a barrier to the investment of capital on any large scale, as a business enterprise. It could not be expected that anyone would sink an amount of money adequate to securing extensive grounds in addition to a large house, as in the event of the lapsing of the Act in 1889 the outlaid capital would be lost.

What a contrast to the state of matters in America, where, owing to the permanence of the law, capital had been confidently invested in inebriate reformatories, some of which can receive hundreds of cases in a year, with such an influence on public opinion, from the unmistakable benefits from treatment in the best conducted of these establishments, that they hold a high place in popular estimation. In fact, persons in all conditions of life—doctors, lawyers, clergymen, editors, and others—who were the subjects of an inherited or acquired physical predisposition to alcoholic excess, at once sought the shelter, protection, and care of such an institution when they felt the premonitory symptoms which bitter experience had taught them indicated an approaching paroxysm.

To meet this serious defect in the Act, its shortlived existence, the only effectual remedy would be its renewal of a permanent instead of a temporary measure.

II.—AS REGARDS THE PATIENTS.

1. HINDRANCES TO VOLUNTARY ADMISSION.—The voluntary admission of an habitual drunkard into a retreat was, under the present system, made very difficult and irksome. Confirmed inebriates—from the diseased condition of the brain and nervous centres, to say nothing of the frequent collapse of their purely bodily energy—were very often so utterly broken down in morale, and so shorn of will-power, that they are insensible, as a rule, to appeals to their
Legislation for Habitual Drunkards.

They seemed in general dead to all the nobler impulses of humankind. In this demoralised and apparently hopeless prostration of brain, mind, and morals, it was an arduous task to get them to realise their diseased state, and their utter inability to tamper with intoxicating liquor in any form and in any circumstances. You do succeed, however, in a happy moment. The victim sees his position clearly, with the urgent call for treatment in a retreat and seclusion for a time, and he consents to go under the Act and to surrender his liberty. He cannot do so till, on the production of the statutory declaration of two persons that he is an habitual drunkard, two magistrates have been found, in whose presence he has to declare himself an habitual drunkard. You might with some little trouble find one magistrate, but to find two is not unseldom by no means easy of accomplishment. Appointment after appointment might be made—aie, had been made—till after repeated disappointments the flickering effort of the shifty dipsomaniacs had become fainter and fainter till it had died away altogether, and an excellent opportunity for a trial of the Act and of firm curative treatment had been lost. This had occurred with males. How much more powerfully would the having to undergo a similar ordeal operate to deter females from applying to be placed under the compulsory detention provisions of the Act?

This grave obstacle to the voluntary admission of the habitual drunkard into a retreat must be removed, or at all events diminished, if any considerable number of inebriates were to have the opportunity of placing themselves in a retreat in circumstances favourable to a cure. Why should not the confirmed drunkard be admitted with or without a medical or other certificate on his own written confession that he was an habitual drunkard, and his own written request that he be taken care of and treated?

If this were deemed to be too easy an entrance into an inebriate home (though for his part, Dr. Kerr failed to see how voluntary admission could be too simple and easy, as every inducement ought to be held out to the habitual drunkard to give himself up to protection and curative influences), the presence of two magistrates ought to be dispensed with, and a declaration before one magistrate be sufficient. Though appearance before even one justice is formidable enough to repel most female inebriates, this would not deter so many applicants as the appearance before two justices did at present. To this proposal he did not see how there could be any reasonable objection, as it was in the power of one magistrate now to commit a person of unsound mind to a lunatic asylum, a much more delicate and responsible office than simply attesting the desire of an inebriate to voluntarily surrender his liberty for a time in the hope of temporary or permanent benefit.

2. Prohibition of the Supply of Liquor to Patients.—It would be an enormous advantage if there were a provision whereby any neighbouring publican who had been made aware that certain patients were under the Act, would be guilty of an offence against the Act if he supplied such patients with intoxicating drink. At present a patient was allowed to go outside a retreat, only at a considerable risk from the abounding temptations on every hand.

III.—As regards the Habitual Drunkard's Friends and the Community.

At present the habitual drunkard, in the impossible endeavour to satisfy his irrepressible crave for strong drink, might drag his wife and family to beggary, and might wring their hearts with a sorrow, the depth of which must for ever remain untold; and if only he took care to be guilty of no overt criminal act, he was allowed to scatter hunger and desolation at his pleasure. Ruined, disgraced, and dishonoured by a father's habitual drunkenness, the weary wife and tortured children had no redress. Ought this
so to be? There could be but one reply, "It ought not."

How was the mischief to be remedied? By penal enactment? Assuredly not. The punishment of habitual drunkenness by the law, and its denunciation as a vice and a sin from the pulpit, are alike futile. Habitual drunkenness in many cases was a disease, a madness for strong drink, a veritable dipsomania. In not a very few cases the inebriate was more sinned against than sinning. He might have an inherited alcoholic taint, an irresistible impulse to excessive indulgence in intoxicating liquor, when once the blood has felt the warm provocative glow of the irritant narcotic intoxicant. Theroists whose vision was limited to their own circle, whose belief was based on preconceived notions, without reference to facts, whose intellect was given up to tradition, and whose judgment was surrendered to others, might deny the existence of alcoholic heredity, but to the skilled medical eye there it stood as clearly displayed as was the hereditary taint of gout, scrofula, or of insanity. On the whole system of the subject of this inviolable natural law were stamped a susceptibility to the narcotic action of alcohol and a proclivity to its intemperate use which lasted through life itself, and which might truly be said to combine, in the words of the poet, to form

"A wraithèd serpent, who does ever seek
Upon his enemy's heart a mortal wound to wreak."

From causes other than heredity, habitual drunkenness might fasten on a human being with its

"Strong, and cold, and iron grip."

Defective nerve power, nervous shock, excessive study, neurasthenia (exhaustion of the brain) from any cause, and many other physical conditions, might set up such a state of brain and nervous centres, and such a derangement of the intellectual and moral powers, as might induce habitual drunkenness in the previously regular and moderate drinker.

The gist of the whole matter was that alcohol was an irritant narcotic poison and that intoxicating drinks had an irritant narcotic poisoning property. The majority of persons were not specially susceptible to this poison, but could go on creditably through life, steady, careful, limited drinkers, just as multitudes could live in insanitary conditions without ever appearing the worse for such dangerous surroundings. But there were those who were peculiarly susceptible to alcohol, as there were those who were peculiarly susceptible to sewage poison. Such could be total abstainers from intoxicants, or could drink to intoxication, but to drink in "moderation" was an impossibility to them. Of such material were habitual drunkards made. Apart altogether from moral or religious considerations, they were afflicted with a physical disease which must be met by physical remedies, the chief of which was unconditional total abstinence from all intoxicants in all circumstances. Even when life itself appeared involved, the risk inseparable from the smallest sip of an intoxicating liquor was so great that the experienced and judicious physician would administer to such an one an intoxicating remedy only with fear and trembling.

Besides the terrible injury he inflicted on his own household, the habitual drunkard wrought much mischief to the community in which he lived. He was not a friend, but a foe, to the public good. He was a disturber of the peace, a promoter of riot, and the occasion of a large proportion of the criminal and reformatory expenditure of the country. He was also a standing menace to the security of life.

Take one instance of the wrong he did to this country. In some extensive workhouses there were paupers who had been regular attenders for years. They went into the house penniless and broken-down after a debauch, and as soon as they had recovered from the effects of their excess and had been set on their feet again, they took their discharge
and recommenced their career of
wreck and repair was repeated
several times in the twelve months.
What an enormous expense is thus
thrown by even one such habitual
offender on the rates in even a few
years!
Was it just that this course of out-
rage and wrong on the family and on
the community should go on un-
checked? Common sense replied,
"No, it is not just." How could it
be stopped? This could be done by
the removal on the part of the State
of all temptations to drinking—in
other words, by the total prohibition
of the liquor traffic. Such a measure,
properly carried out, would be an
effectual prevention of the vagaries
and misdeeds of the dipsomaniac.
Dr. Kerr had seen its most efficient
operation in the State of Maine, and
right thankful would he be to see it
enacted and enforced in the United
Kingdom. But that desirable con-
summation was not yet, nor was it
even, notwithstanding the jubilation
of the most enthusiastic of abstainers,
within measurable distance. Such
being the fact, the only course left
was to lay hold of the drunkard. He
was a public nuisance and a private
curse. Lock him up, exclude him
from drink, place him under wise
curative and hygienic influences, and
he might yet become an orderly,
sober, and useful citizen. It ought
to be in the power of the injured
relatives, or of anyone interested in
the welfare of a habitual drunkard,
to apply to a magistrate to commit
such a person who, by reason of
his habitually intemperate habits,
was unfit to manage his own
affairs, or was dangerous to himself
or others, to an inebriate home, where
he might have a chance of being
cured.
No real objection to this power
could be based on "the liberty of the
subject." The class of persons he
was now referring to were the most
abject slaves on earth, bound by the
iron chains of habit, and grovelling
at the feet of their implacable narco-
tising giant. Not the most wretched
victims of the despotism of Eastern
antiquity,
"In their helpless misery blind,
A deeper prison and heavier chains did
find,
And stronger tyrants;"
and the only liberty they enjoyed was
liberty to destroy themselves and to
annoy others.
The true liberty of the subject could
easily be safeguarded; and efficient
inspection would effectually prevent
any abuse of the power of compulsory
committal and detention.
With reference to pauper habitual
drunks, the British Medical Asso-
ciation issued two circulars to Boards
of Guardians, asking their opinion as
to whether guardians should be en-
trusted with the power (if they chose
to exercise it) of paying for the deten-
tion and cure of habitual drunkards
who might be paupers on similar con-
ditions to lunatics and those having
special diseases, viz., of detaining
such habitual inebriates either in the
workhouse or in some special estab-
ishment. There were replies in the
affirmative from forty-one boards, and
in the negative from ten.
The power to detain habitual ineb-
riate paupers for a definite period
would be of inestimable value in giv-
ing them the chance of reformation
and cure—a chance that they would
probably have in no other way, and
their cure would be a great saving to
the rates.
As the industrial classes could not
be expected to pay for their food and
treatment, the establishment of in-
dustrial inebriate reformatories where
the labour might be remunerative
was much to be desired. At present,
however, the British public were not
convinced of the value of inebriate
homes, and it seemed hopeless to
meanwhile ask for any increased
charge on the rates for so experi-
mental an undertaking.
On the whole, the conclusion to
which we seemed to be driven was
that the Habitual Drunkards Act
ought to be made permanent, and
ought to be amended; and that the
amendments ought to be in the direc-
tion (1) Of removing the present hindrances to voluntary admission into a retreat. (2) Of diminishing the sundry temptations to drink. (3) Of conferring on magistrates the power to commit habitual drunkards to retreats. (4) Of empowering guardians to detain pauper habitual inebriates for ameliorative treatment. By some such amendments the Act, permanently prolonged, might be made an efficient and useful measure, as valuable to the friends and to the community at large as to the unfortunate victims whom the Act was designed to aid in their restoration to health of body, strength of mind, to their families, and to a life of activity and usefulness to their fellows, and to the common weal.

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THE WEATHER AND THE DRINK REVENUE.

By Dr. Benjamin Ward Richardson, F.R.S.

In presiding over St. Pancras Total Abstinence Association on Monday evening, October 15, Dr. Richardson, after congratulating the society on its immense success, numerical, moral, and social, observed that he should on this, as on previous annual occasions when he was expected to speak, confined himself to one topic. He should take this time the topic of drink and the revenue, because he thought he was able to throw a little light on a vexed question upon which much has been lately written by the public press, and which has not a little perplexed the minds of many staunch friends of the total abstinence movement, shaking the faith of a few as to the progress of their cause, and puzzling everybody.

Some months ago we were all gratified by the fact that the returns of the revenue which are gained from the sale of alcoholic drinks showed a decided and, as it seemed, steady decrease. This was the most hopeful sign we have ever seen. It was hopeful as showing the results of our labours; it was hopeful as showing a promise of a better and happier Great Britain; it was hopeful as showing that our legislators were likely to be influenced towards our views and towards a recognition of the fact that our labours were not in vain, but were, in their way, passively legislating for the whole of the people. But now, upon this prospect has come a cloud. The latest returns show that the revenue from the sale of alcoholic poisons has increased, as if the hard work of the abstaining community was indeed becoming vain, and it is on this point I would speak in order to offer a reason why this particular increase of revenue has occurred, and in order to show that it is no indication of failure on our parts, but may be due to the operation of an unrecognised but very simple natural law.

You will read the various opinions in the public press explaining the increase. Some have attributed it to improvement of wages, others have shown that this is not the explanation; some have said that it is due to the failure of the temperance movement, others have stoutly disproved that imputation and declared that never at any time was temperance so surely prosperous. A large number confess themselves in a difficulty, and see no explanation that is reasonable. And I should be in that position too, if by a happy observation of a natural fact I had not seen a way, which may be the true way, out of the difficulty. With much deference, and as offering a suggestion rather than an affirmation—a suggestion that requires to be carefully examined before it is accepted—

I attribute the rise in the revenue which has just occurred to no other
The Weather and the Drink Revenue.

agency than our old friend the weather, and if you, for a short time, give me your close attention, I will tell you what I have to tell in the way in which it occurred to me. You will follow the argument then as I have been led to frame it out.

In the latter part of the last and the early part of this year I was closely engaged in analysing an elaborate series of tables collected by Messrs. Mitchell and Buchan, of Edinburgh, on the subject of weather and mortalities from various diseases, my object being to condense the facts into a few pages for a new book on which I was then engaged. From these tables I found that the mortality from alcohol has its particular season, and that from the year when mortality returns began first to be collected, up to the present time, the periods are well defined. The investigators I have named above, Mitchell and Buchan, indicate this law by what is known as Bloxam's curve. The months of the year are marked off in divisions, twelve in number, by vertical lines five-eighths of an inch long. These vertical, or straight up and down, lines are crossed in their centre by a horizontal line, which is called the mean line. The whole forms a scale on which the cause of mortality from any disease is marked by a third irregular line, which rises to or above the mean line or falls to or below it, according as the mortality falls or rises during the different periods. I found, then, by this scale, as applied to the diseases from the alcoholic poisons, that the line of mortality was singularly marked. I will show it you. At New Year's Day the line showing the alcoholic diseases, alcoholism and delirium tremens, appears just above the mean line; in January it falls below the mean line, and continues below it through February, March, and April. In May it begins rapidly to rise; in June it rises and falls, but always remains above the mean. In July it runs up rapidly, and in the third week of July it attains its maximum. It begins to decline in August, continues steadily to decline in September; falls below the mean in October, and con-

The Weather and the Drink Revenue.

continues below until the close of December, when it begins to ascend, and yields what is called the smaller maximum, which is reached the first week in January, after which it declines again below the mean until May. These were the facts which came before me in the latter part of last year. They were so curious I made this note of them: see if in coming May and June there will be an increase in the Excise returns.

As you may suppose, having got this idea I looked out from my observatory for the results of the return, as an astronomer might look from his for a comet whose return he had computed, and whatever may be the fact in future, there sure enough it stands good for the present year. At the time when the mortality from alcohol naturally rises by a rather sudden bound, namely, in the middle of May, the revenue from the sale of alcohol went up, giving an increase of £30,000, and that increase continued in a smaller degree during the next four months, yielding an increase of £15,000; or a total during the whole period of maximum mortality from alcohol, namely, from the middle of May until the end of September, of £45,000, as an augmentation to the quarters' full revenue, say of £12,000,000. I have given you so far the facts only. The lesson I draw from them is the increase of sale of the alcoholic poisons and the necessary increase of mortality from them, which has also been sustained, though not in so marked a degree as in some other years, are due to the cause which I have stated — the weather. Every season has its diseases, and the learned authors I have twice quoted have shown that the months divide into periods, during which there are conditions of weather when the diseases causing the mortalities are specially favoured. They define six such periods. 1. Of dampness and cold — fourth week of October to third week of December. 2. Of cold — fourth week of December to third week February. 3. Of dryness and cold — fourth week in February to second week in April. 4. Of dryness and warmth — third week of April to
fourth week of June. 5. Of heat—
close of June to fourth week of August.
6. Of dampness and warmth—first
week of September to third week of
October. Keep these facts in mind
and then observe that the increase of
mortality from alcohol begins in the
second week of the period marked by
dryness and warmth, extends in and
through the period of heat, and then
decreases. The mortality from alcohol
shows that there is an increased action
of the cause producing it, namely, an
increased consumption of alcohol by
the alcoholic populations, and the
season explains why. It is the most
natural thing in the world that during
the seasons when the air is dry and
warm and heated, when the evapora-
tion from the body is very great and
when there is much thirst; it is, I
say, a thing natural as can be, how-
ever estranged from healthy habit,
that people who indulge in alcohol
with almost every drink they swallow,
should drink more alcohol and increase
both the revenue of the nation and
the revenue of death.

Presuming, therefore, that I am right
in interpreting the difficulty about the
increase of revenue, what are the advo-
cates of national temperance to infer?
That our labours are in vain? Indeed
not. The increase of revenue and the
increase of mortality show nothing
against our good work. We now know
there are two periods of the year when
the mortality and the revenue are
likely to rise together. We know that
one of those pleasant periods is at the
time of the national festival when
peace and goodwill should be the
order of the day, and we know that
another, and much longer of these
periods, is when, from the effects of
the weather, the intemperate, calling
for more drink, contribute more death
and more revenue. We ought to
accept these wants as expected evils
to be systematically circumvented in
course of time, and we ought to be
thankful that they are not worse than
they are. They bear looking at with
perfect equanimity. Look at the
figures and feel assured on this point.
Amongst the thirty-six millions of
people of this nation there has been
consumed, under exceptional circum-
stances, an excess of alcohol sufficient
to add £45,000 to the revenue. The
feat has been accomplished from the
middle of the quarter ending in June
to the close of the quarter ending in
September. The period includes 133
days, and I think you will find that
the excess of revenue obtained by the
sale of alcohol averaged a trifle over
£338 per day. Supposing that as few
as 325,000 persons belonging to the
alcoholic-consuming community in-
creased their contributions to the
revenue, through alcohol, in the pro-
portion of one farthing per day, they
alone would yield more than the sum
that has been added. I suspect, how-
ever, that even a smaller number than
this, small as it is, may have turned
the scale, and that a mere increase of
consumption by the extremely in-
temperate—many of whom succumbed
to the poison—may account for all the
variation that has taken place.

I could strengthen my argument
by showing that during the period of
maximum mortality from alcohol,
other modes of death, often closely
connected with alcohol, have also
their maximum. This is notably the
case with suicide. I will not, how-
ever, trouble you with further details,
because I want only to impress for
future guidance and direction of work,
first, the fact that the fluctuations
in the results of our efforts may be
reasonably explained from evidences
which have up to this time been over-
looked; and secondly, that when men
make a boast to you that the revenue
is on the increase from the sale of
alcohol, you can apprise them, not
with boasting, but with the solemnity
due to so solemn a fact, that death
also is on the increase from the same
sale, and that so long as the words
"Thou shalt do no murder" ring in
your ears, you will continue to the
fore in enforcing the commandment.
THE PROPOSED EXPERIMENT AT MANCHESTER.

The monthly meeting of the Manchester Royal Infirmary Board was held on Monday, Nov. 26, at the infirmary; Mr. J. W. Maclure in the chair. The minutes of the House Committee stated that at a meeting of the Medical Board, held on the 20th inst., Dr. Simpson presiding, the offer by a “benevolent gentleman” of £1,000 for experiment as to the use of alcohol in the infirmary was discussed. It was then resolved “That the Medical Board unanimously disapprove of the scheme laid before the Infirmary Committee for the investigation of the effects of alcohol in the treatment of disease, and for the following reasons:—(1) The conditions necessary for arriving at a trustworthy conclusion as to the value of alcohol by the logical method of difference as proposed in the scheme cannot possibly be realised, and therefore any conclusion arrived at, whether in favour of or against alcohol, might lead to a disastrous practice either by an undue extension or curtailment of the use of that drug; (2) alcohol in its various forms is given in this hospital as a medicine, and not as an article of diet. As a medicine it is of great value in the treatment of disease, and at times essential for the saving of life. This being so, they can only regard the course suggested in the letter submitted as an experiment which involves the lives of their fellow-creatures, and cannot, therefore, be countenanced.” The Infirmary Committee adopted this resolution, and ordered that it be communicated to the Rev. Dawson Burns and Mr. Thomas Cash, both of London, through whom the offer came. On the motion of Mr. C. G. Hulton, seconded by Mr. Alderman Curtis, the minutes of the committee were now approved.

Upon this subject the following letter was sent to the British Medical Journal by Dr. J. James Ridge, of Enfield:—“As I was partly responsible for the offer of £1,000 to the Manchester Infirmary to set apart a ward for twelve months for the purpose of testing the treatment of disease without the ordinary employment of alcohol, I trust you will allow me to comment shortly on the decision of the Medical Board. It is very easy to say that alcohol is very useful in the treatment of disease, and sometimes essential to save life, but how do they know it? How can they possibly tell unless they give nature an opportunity of showing what she can do in the absence of alcohol? I confess that, at one time, I was as confident of the virtues of alcohol in the treatment of disease as anyone could be, and it was not until I saw cases after case recover under my care in the London Temperance Hospital—cases to which at that very time, in any other place, I should have given alcohol—that I became convinced that the value of alcohol as a drug was, at least, enormously exaggerated. The fact that improvement often sets in after the use of alcohol is no proof whatever, for I have repeatedly seen sudden turns for the better in all kinds of cases treated without it. The only fact which would justify the Board in their strong assertions would be the recovery of a greater percentage of cases with alcohol than without. Such proof does not exist, and (so says the Board) “never shall if we can help it.” But can they discover in any of the public institutions in which alcohol is not employed, that there has been a higher death-rate or longer duration of disease, other things being equal? Certainly not. Can they show that the practice at the Manchester Infirmary is any less successful now than it was a few years ago, when the quantity of alcohol given was immensely larger? I trow not. If, then, they or their predecessors gave alcohol unnecessarily in years gone by, is it impossible that they should be even giving it unnecessarily now? This is, no doubt, a very heretical suggestion, but I decline to consider the matter settled by mere dogmatic assertion. Faith in the virtues of all kinds of liquor which contain alcohol is so widespread, and is so disastrous in rivetting on the nation the alcoholic
habits and notions which beget intemperance and its consequences, that it seems to me the bounden duty of the medical profession to reconsider their position in using and recommending such liquors, and not to employ them without some reliable proof of their absolute necessity, which, to say the least, does not at present exist. How can such proof be obtained unless the test of exclusion be faithfully employed? It ought to be known, however, that in the conditions attached to this experiment, it was carefully provided that the medical attendant should have perfect liberty to administer alcohol in any case in which it might be considered essential, a right allowed, though only once used, in the London Temperance Hospital itself during its ten years' existence. This right was conceded at the foundation of that hospital on my motion, and I hold myself at liberty to give it at any time. I do not, because I am convinced that it can rarely be of any service, and that then it is not essential. If medical men would try for themselves, they would arrive at the same conclusion."

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**ALCOHOL IN DISEASES OF WOMEN.**

By J. Matthews Duncan, M.D., F.R.C.P.L., Physician - Accoucheur and Lecturer on Midwifery at St. Bartholomew's Hospital, &c.

The immoderately great consumption of alcoholic drinks by women, without their necessarily ever reaching the stage of drunkenness, is so common and so potent a cause of disorder and disease that it requires special mention. It is possible that much of the influence of this drinking might be justly ranked as part of mere overfeeding, whose injurious effects we have already spoken of, but this is far from certain. Indeed, while I am unable to give any strong evidence of the specially injurious action of alcohol, considered as an article of diet, I am much disposed to this view, being led to it by the good results in practice which I believe justly attributable to desisting from the use of it. The instances on which I rely are cases in which I have, by physical examination, and other modes of inquiry, been unable to discover any evidence of disease of the internal genital organs. It would not make the conclusion more assured to enumerate cases which are not in number or other circumstances sufficient for a demonstration. But I may mention the leading features of one which could not but strike the most careless observer. This patient was brought to me to be cured of sterility, and, as some prolonged treatment was expected, she proposed to reside near me for a time. She was between twenty and thirty years of age, and had been several years living in fruitless marriage, absolute sterility. On two occasions, with at least two years of interval, I declared my inability to do anything against the sterility by local means because I could discover no disorder or disease of the womb or its appendages. Having some suspicion of too liberal use of alcoholic drinks, I recommended teetotalism. After the lapse of a few years the patient, now a happy mother, was again brought to me on account of some trifling complaint, and I was told as follows:—Her drinking habits having increased, she was induced to go into seclusion with rigid surveillance, and in this she lived for about a year without any kind of alcoholic drink. When she came home again she had lost much flesh, but was in good health, and she maintained what were now teetotal habits. She immediately became pregnant, and pregnancy recurred. Such cases are not singular, and induce a belief in a special hostility of alcoholic drinking to fertility.

But alcoholic drinking has, in
addition to the general or constitutional disorder which it produces, well ascertained power, in certain cases, to induce disease of the internal genital organs. That which is most easily and distinctly made out is chronic ovaritis. It often comes and goes in the presence or absence of the cause. When it is present sterility is not always a result, but frequently so, and its cure is often followed by the disappearance of the sterility.

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DO TOTAL ABSTAINERS LIVE LONGER THAN MODERATE DRINKERS?

The quarterly general meeting of the British Medical Temperance Association was held in the rooms of the Medical Society of London, Chandoş Street, Cavendish Square, on Tuesday, 27th November; Dr. B. W. Richardson, F.R.S., the President, was in the chair. There was a good attendance.

Dr. Richardson first proposed that a vote of condolence be sent to the families of the late Drs. Grindrod and Scatiff. In so doing he passed a warm eulogy on both these late good and distinguished members of the society.

The President then delivered a short introductory address. He treated on a few subjects touching upon some of the more important relations of medicine to the public; the division of medicine into many sections, the fashion of computing the skill and knowledge of the physician or surgeon by the assumed amount of his income; the return to the humoral pathology; and the exaggerations of the germ hypothesis. Referring to the relationships of medicine to alcohol, he said that the temperance public had an idea that some medical men were opposing total abstinence in the press, and two able leaders that lately appeared in the Times were being subjected to comment in this manner. But there was no proof of the medical origin of these articles, and if there were they need not be considered as inimical, because in fact the arguments in favour of alcohol were the finest irony, and, accepted in that sense, were favourable to the cause of temperance. The temperance public had the idea that the members of the medical profession were not so precise in the recommendation of alcohol as was desirable. On this point the complaint was very earnest, and it was supplemented by another complaint that sufficient thought was not given to the cases of persons who were striving to maintain total abstinence in order to avoid a return to an intemperance in which they had previously indulged. On this last point, it could not be denied that the doctor was too often referred to as recommending what the affected person himself was alone responsible for. At the same time there hardly could be a doubt that mistakes were sometimes made by the profession in this direction, and it was a duty to impress this fact day by day until a complete reform is established. The last topic dealt on by the President was that there are many medical men who are themselves total abstainers, and yet will not declare themselves as following a practice in the benefit and virtue of which they participate. This, he said, is not fair
to those who bear the brunt of the declaration, and is in itself a weakness which is sure in the end to lead to public distrust rather than to credit. He concluded by calling on Dr. Drysdale to read his paper, entitled "The Comparative Death-rates of Assured Abstainers and Moderate Drinkers."

The President: Dr. Drysdale's paper is built so strongly on facts that discussion is not quite so easy as in the case of other papers where mere theory is introduced; but there is scope for a good deal of observation, and I hope that both the members and the visitors will give us the benefit of their views upon anything that has been said.

Dr. Ridge: Dr. Drysdale has, of course, come across some of the ways in which various medical men and others have endeavoured to account for the manifest difference between the lives of abstainers and the lives of non-abstainers, and if he had dealt with these objections I should not have felt it needful to rise on this occasion; but I think it absolutely necessary that one or two of these objections should be noticed, because if there is any other way to account for this difference other than the use of alcohol we surely ought to be able to arrive at it, and if that is the true course, I for one should say no more on the subject. One of the objections raised is this—that the difference is to be accounted for by the fact that total abstainers show that they are careful people, anxious to guard themselves against all kinds of risks, and would therefore be likely not only to guard themselves in this way, but to protect themselves against other causes of disease and death. Well, that is very complimentary to the total abstainers. I must say that I really cannot believe that this is to any extent, or any perceptible extent, a cause of the difference, and that it should be the cause of such a great difference is, I think, palpably absurd. Another reason alleged is that the increased death-rate amongst non-abstainers is owing to the prevalence amongst them of a great deal of intemperance afterwards, although they are insured as moderate drinkers. Some, perhaps, who are intemperate creep in past the medical officers, and in course of time help to swell the death-rate. I can imagine that in every office there are some who manage to get in under false pretences, but I think that our medical officers as a rule are not so easily taken in, and that a person who has manifestly injured his life by intemperance would not be likely to get into offices in such large numbers as to produce the difference. Then we all admit that a good many of those individuals in the non-abstaining section do die of diseases which are probably due to intemperance. We find in the list diseases such as cirrhosis of the liver, and even delirium tremens, put down as the cause of death. Manifestly, therefore, some who originally were moderate drinkers when they joined the institution became intemperate in the course of years; but this is one of the allegations that we have always made—that if we take a certain number of moderate drinkers at any given period, and then at a period of ten, fifteen, or twenty years afterwards—if we are able to examine their lives and see then how they stand with regard to alcohol, we should be certain to find that a great many of them have become intemperate. This is simply a matter of fact, and therefore we consider that to abstract those lives from the non-abstaining section, as being people who should not be taken into the account, is to do that which is not right to be done. Intemperance is one of the diseases (if you like to call it so) which is a natural outcome of moderate drinking as much as any other physical disease from which these moderate drinkers die, and therefore is to be expected, and will always be found. Those who allege this to be the chief, if not the only, cause of the difference are making a very terrible assertion. The difference as between the death-rate of moderate drinkers and abstainers, as you will find on the diagram, is 27 per cent., or, to put it in round numbers, one-fourth greater; and therefore, if this one-fourth of the deaths is due to in-
temperance, it would follow that one-fourth of the moderate drinkers insured in these institutions give way to intemperance, although these people are the picked lives of the population. I should be very sorry to allege that one-fourth of the people of this nation, living in a similar class of life to those insured in these offices, are habitual drunkards. I certainly do not think it is so. Really it goes a little further than that, for those who object to our argument have an idea that total abstinence is injurious, and that strict moderate drinking is somewhat valuable, and therefore would rather tend to prolong life than reduce it; and if that is the case, then the actual death-rate amongst the moderate drinkers would be lower than it is amongst the total abstainers. If that is so, more than one-fourth would be due to intemperance. You would even perhaps get a third of the mortality in the moderate drinking section due to actual intemperance—which is even more absurd still. But there is one objection which occurred to me that nothing but facts could clear up, and it is this—supposing there are abstainers who in the course of time become ill, go back into drinking—and we know that, as a general rule, there is not an abstainer in existence who has not at one time or another been ordered, sometimes on pain of death, to resume the use of alcoholic liquors; if these abstainers who become ill resume alcoholic liquors, and drop out of the total abstinence section, and leave the more vigorous ones in full possession of the field, it would be very clear that in course of time the death-rate of abstainers would seem considerably more favourable. I wrote to Mr. Cash to know whether that was the case—whether there were many abstainers who dropped out of the section, because each year they have to certify that they are still continuing to abstain; and I am very glad to be able to say that he told me distinctly, no; very few indeed drop out of the total abstinence section who had once entered it, and on the other hand, that several are constantly passing over from the moderate to the total abstinence section. It, therefore, seems to me that if we could have life abstainers who are never mixed with those who have injured themselves to any extent by the use of alcohol, the difference would be even greater still.

Dr. Norman Kerr: It may be that this paper seems in some respects dry, having no burning questions involved in it, but at the same time it is a paper in which Dr. Drysdale has brought before us a series of remarkable facts which there is no gainsaying, for they are pregnant with very grave matter for discussion. It would be unfortunate if we did not endeavour to look behind the figures, but in the meantime we must express our gratitude to Dr. Drysdale for having brought them before us. One of the difficulties to which he has referred with regard to modifying the conclusions at which total abstainers arrive is this, that total abstinence is not more than half-a-century old, and therefore there is not the same proportion amongst the total abstinence section of old age and old lives that there is amongst the general section. I am quite satisfied there is something in that; but making every allowance for all that ought to fall to the total abstainer, it seems to me that the conclusions in the main cannot be very much invalidated. It has been said that total abstainers are more careful and thrifty; that is very true, and it tells in both ways. Some teetotalers are most intemperate in their excess of personal work. They allow themselves insufficient time for both sleeping and eating. It is all very well for you to shake your head, Mr. President, but you are one of the greatest sinners in this respect.

(Laughter.)

The President: I know you are.

(Laughter.)

Dr. Kerr: I have seen this thrift in the coffee taverns, for after a time the customers have come to be more careful. (A laugh.) The first year they have spent a good deal, but afterwards their expenditure has become almost nil, so that at the present moment nearly all the coffee-taverns in
London are in liquidation. The abstainers are in fact more careful of their lives and their pockets than the persons who drink. At the same time, making every allowance on that head, if we give up 2 per cent. of our advantage, we still have 25 per cent. difference between the two classes of lives. I believe there are several gentlemen here this afternoon who are connected with the actuarial department of the insurance companies. We have not often the pleasure of seeing them, and this will be an appropriate time for us to sit and listen to the results of their experience. It is all a matter of figures, and we who are medical men are extremely desirous to get at the real conclusions which ought to be deduced from them. It is absolutely necessary that we should have these conclusions certified by actuaries—men who have made the analysis of figures the study of their lives, and who are in a position to pronounce upon the subject. Whichever insurance company has been the pioneer, I am heartily glad to see so many of them separating the sections as a matter of business. It must gratify abstainers that you, Mr. President, have accepted the office of Chairman of the Briton Life Assurance Company—a company which is doing all it can to give to this particular class of life whatever benefits rightly belong to it. (Cheers.) When business companies find it to their pecuniary advantage to make this distinction, it shows emphatically that there must be something in the contention that total abstinence, other things being equal, is much more healthy for any average life than even moderate drinking—nay, more, it will go to show that persons in good health are not only much better without intoxicating liquor altogether, but that the practice taking it habitually, even in small quantities, does decidedly tend to shorten life; that the habit is useless, dangerous, and unnecessary, and that the sooner it is abandoned the better for the life of both the individual and the nation.

Mr. Walter Pearce, B. Sc., thought there must be something in addi-
dition to the practice of total abstinence to account for the extremely low mortality of 27 per cent. amongst teetotalers. Was it not a fact that many total abstainers were early risers? A judge was in the habit of inquiring of very aged witnesses whether they were early risers, and almost invariably found it to be so. Drinking at night, he thought, made people slothful.

Dr. Gloster said he was not an abstainer, but yet thought that his health would bear comparison with that of any gentleman present. At the same time he was not an opposer of the movement, for in many respects he thought it had worked for good. There ought to be a distinction drawn between persons who lived in the country and in crowded towns—particularly those where there was a great deal of smoke. For twenty-five years he had lived in Ireland without once crossing the Channel, and perhaps some would say that to the bracing air of the sister Isle his health was due. He was quite of opinion that all intoxicating liquor should be cut off from those who betrayed symptoms of habitual excess.

Dr. Stewart remarked that the speech to which they had just listened showed the value of such a paper as Dr. Drysdale had read. People were apt to judge of these things too much by their own personal experience; but conclusions of that kind were apt to be fallacious. Now, there could be very few fallacies connected with such statistics as Dr. Drysdale had brought before them. He was sure there were many medical men hovering over this association, and doubting whether they should not cast in their fortunes with it; and such a paper as had been read to-day was well fitted to bring them to a decision. Dr. Gloster made one remark of very great value when he said that many lives were put down as having been lost through intemperance—the loss being due not to the direct results of intemperance, but because the individual’s power of taking care of himself had been diminished. That was very important, and the consideration of such a statement showed that even these statis-
tics did not tell all that might be
told as to the effects of ex-
cess in lessening the duration of
life. (Hear, hear.) Many cases of
death from cold were due to cold con-
tracted because the persons did not
protect themselves. Tho-e were,
however, points they were not able to
tabulate. He, like Dr. Gloster, was
brought up in the country. This was
exceedingly fortunate in most cases.
He had enjoyed vigorous health for
the greater part of his career. He
was satisfied from his personal ex-
perience that the duration of life in
hot climates was increased 40 per
cent, in the case of abstainers.

Mr. Messent, actuary of the
Briton Life Assurance Company, said:
I need not say how much I sympa-
thise with what has been said in the
paper read to-day. Actuaries are
taking more interest every day in the
question of the mortality between ab-
stainers and non-abstainers. I am
not prepared to follow the tables com-
pletely, but after every allowance
for possible exaggeration has been
made, there is quite sufficient left to
prove Dr. Drysdale's point. We have,
however, not been sufficiently long in
that business to enable us to speak
with the confidence with which we
can speak of the general mortality of
the country, but all actuaries will agree
that the total abstainers—certainly
the present generation of total ab-
stainers—have by far the advantage
of the argument. I need not say that
the managers of life assurance com-
panies endeavour, by all the means in
their power, to steer clear of intem-
perate lives. These have been the
bane of life assurance companies, and
one of the greatest causes of anxiety
to those who have to manage them.
The first difference made was by an
extra charge put upon the lives of
those who were engaged in the liquor
traffic, beginning with three years, or
10 per cent., which was putting them
on a par with a man suffering from
the gout; but recent investigations
have proved this charge to be quite
insufficient, and it is a question
whether fifteen years should not be
put upon the premium. The difficulty
we have in exactly determining this
point is that so many persons insure
in one trade and go into another, and
we have no means of charging them
accordingly. We are obliged to tem-
per our statistics by our own judg-
ment before we come to an actuarial
conclusion. Supposing a man comes
in as a footman; when he has saved
a little money he takes the corner
public-house and then he becomes
rather a damaged article. We have
always had the danger of intempe-
rance, and the diseases pertaining
thereto, so vividly before us that even
before the question was tested to its
present nicety actuaries were all
agreed as to the advantages teetot-
talers would have. Before we can
determine what is the exact advan-
tage we must allow a little more time
to elapse. We must let the lives
come to sixty-five or seventy before
coming to an exact conclusion. Even
allowing for a mixture of the sections,
I prefer the commercial way of re-
garding it, and that is by looking at
the reduction of the premiums. You
have the means of charging back
again if a man does not keep his
pledge. I think that the offices giving
the advantage to the abstainer will
not allow him to toy with his prin-
ciples. He will have to be one thing
or the other. If he gives up abstain-
ing he won't be taken back again into
the benefits of the total abstinence
section for two or three years after-
wards. I rather prefer that commer-
cial way of looking at it, because
these sections are capable of some
little error; that is to say, that the
general section is a little worse than
it ought to be. If you turn out bad
members from one section and put
them into another you are apt to
damage the one you put them into,
and I am sure in any case that total
abstainers have quite enough margin
for their argument.

The President: I entirely agree
with Mr. Messent that the 'true test
which this question must go through
is to be tried by the method of taking
away from the premiums. I do not
dispute a syllable of the facts which
Dr. Drysdale has brought forward.
On the contrary, I have frequently quoted them, and I quite agree with what Mr. Messent has said, that there is a sufficient margin to account for all fluctuations which appear on both sides. I think it is most important that we have these figures before us; but the test will come for all the insurance companies on this ground of reduction of premium. We have something definite there to go upon, and if it can be proved that we may safely trust those persons who are insured to this extent, and that there can be a bona fide business done upon a reduced premium, then, far more than in any other way, will the fact be determined that total abstinence is in favour of a long and a better life. I have no doubt that this will very soon become clear to all minds. I think I may say that in our (Briton) office we have not had as yet a return from total abstinence to moderate drinking, or at most there has been but one.

Mr. Messent: There has been one, I think.

The President: That is a very good experience. A question has been raised as to whether the results can be modified by the taking of food, and it is a common impression that those who indulge in strong drink take less food than those who do not take strong drink, I am bound to give that statement an entire and absolute denial. It is not based on any fact whatever. It is altogether the other way. When I was travelling through Ireland some years ago I was during one month dining almost daily at a different table, and at every table at which I sat total abstinence was the rule of the house. I saw no wine or strong drink of any kind in any house, and that which struck me as a most remarkable feature was the small quantity of food taken. I had never seen such temperance in eating as amongst the wealthy classes of Ireland. I observe the same temperance at the tables of abstainers in England to which I have frequently gone. And so again with regard to my own household expenses. I find that the actual cost of housekeeping is considerably less. I believe the expense is 20 per cent. less now that we are an abstaining household than that we were previously incurring in regard to food. There are two or three ways of accounting for this. All our servants are abstainers, and perhaps they are more careful, but my own impression is that there is less food taken. When we come to the evils which may arise from over-eating (and I do not doubt that there are such evils, although they are greatly exaggerated,) yet these evils are also tempered by temperance in drinking. Therefore the temperance life in insured is better even in respect to eating, and not so likely to be disturbed and deranged by eating. But there is a great deal more to be said in one other direction, and that is the mental. People accustomed to strong drink, and who call themselves moderate, when they are disturbed by any mental cause, are often given to go a little over the moderate mark. They may be very temperate indeed as they think, but when something agitates and worries them then they take a glass of wine more, or a glass of whisky, or a little brandy. They fall back upon an agent for which the abstainer never has the desire. If the abstainer is worried or fatigued, or subjected to physical shock, he never thinks of resorting to alcohol. If he be subjected to anything that upsets his mental balance in the sense of fear, he does not desire to take alcohol, but is saved from much of that worry and anxiety which no doubt tend largely to reduce the value of life. I happened one day to be at the Marble Arch, and my carriage was following me. The large carriage dog ran away. I caught him with difficulty, and he pulled me down with great violence against a Hansom cab, and I received a scalp wound four inches long and down to the bone. A gentleman told me that the blood was spurting from the wound, and I put my finger to the spot and stopped it as best I could. Dr. Symes Thompson was passing, and he came up and took me home, calling on the way on Dr.
Wharton Hood, and they most carefully and nicely stitched up the wound. I had stopped the bleeding by my own compression. Under ordinary circumstances a man would have taken brandy, from the loss of blood. If he had done so he would have had a little fever, followed by a great deal of depression, and then, perhaps, a little more brandy; after which he would have gone to bed, and been in bed a week or more, and possibly, if at all unhealthy, erysipelas would have set in, from which he might have died, and he would have gone to swell the mortality of his insurance office. In my case I wanted nothing alcoholic, and as soon as the wound was dressed and everything put right, and I had been made respectable looking, I recommended my work, answered my letters, next day went to the Houses of Parliament to give evidence before a committee, and never changed my course of life in the least. It was simply a matter of being free from any desire to take alcoholic stimulant to meet such a shock. Total abstainers generally, subjected to a similar accident, would obtain the same advantages. Here, then, we come upon the mental influence of alcohol, and see that by taking away the risks incurred through its action, there is again a reason why there should be for abstainers a longer life. On this point I do not think there can be two opinions by persons who will look with candour and fairness upon all the facts. I believe we are sustained in the cause of total abstinence when we keep to these hard lines of fact better than by any amount of eloquence of a less decisive and distinctive kind.

Dr. Drysdale then briefly replied to the points raised. He said: I am obliged to Dr. Ridge for putting the difficult point he mentioned before us. I have often been spoken to by persons out of the profession about these statistics, and he has put before us difficulties to which we will have to reply, but, being forewarned we are probably forearmed. People who drink cannot bear to give up the ideas which seem to justify their habit unless you drive them from them. There are certain intellectual people whom you cannot reach except through their intellect, and you must drive them from their stronghold that way. They say, “Give us facts and the results of accurate observation;” and for my part there has been nothing that has convinced me more thoroughly than these figures; and I am so glad to hear you, sir, and Mr. Messent, saying that whatever exaggeration there may be, the figures are quite sufficient to prove the fact. People say there is a plurality of causes, and it may be that teetotalers are largely young people; but when you begin to go into 20,000 cases you get at the real facts—for we know that the numerical method in medicine is the only way we can arrive at truth. After hearing all the objections, I think there is nothing that can materially upset these figures. Alcohol, and alcohol alone, must be the cause of the enormous difference of 99 per cent. on the one hand of moderate drinkers dying, and on the other of only 54 per cent. dying amongst the abstainers. Dr. Kerr has also explained that teetotalers become more and more prudent and thrifty, and, after all, that is a very important thing, because the less we spend the less we have to work, and the more chance we have of getting to the natural end of our days. These statistics show Dr. Gloster that he ought not to take any drink. If these statistics are right—noblese oblige—we have no right to drink. If we medical men drink in the face of them, we are very much in the position of the clergyman who teaches bad morals. The very raison d'être of our existence as a profession is to teach the people how to live, and probably the most effectual way of doing so is by living properly ourselves.

The proceedings then closed.
Notes and Extracts.

NEW MEMBERS.

Dr. Appleton, Staines.
Dr. Deeping, Southend.
A. F. Graham, Esq., Liverpool.
Rev. Dr. Gregg (Bishop), Southend.

Dr. Knox, Clapham (Lancaster).
P. R. Mandev, Esq., London.
Dr. McGregor, Portsmouth.
Dr. Medlicott, Eastbourne.

NOTICE.—Members whose subscriptions for the current year, commencing May 1st, 1883, are still unpaid, are requested to send them to the Honorary Secretary at their earliest convenience.

Enfield, December, 1883.

J. James Ridge, M.D.,
Hon. Sec.

Notes and Extracts.

GUARDIANS AND HABITUAL DRUNKARDS.—The Guardians of Lambeth and Newcastle-on-Tyne have passed resolutions in favour of memorialising the Local Government Board to take steps to procure such an amendment of the law as will give power to the guardians to establish or maintain inebriate retreats, either in connection with existing workhouses or asylums, or in separate establishments, as might be thought desirable.

WORKHOUSE BEER.—As a result of the conference of the Poor Law medical officers at Liverpool on Workhouse Stimulants, the Toxteth Board of Guardians have resolved: “That each officer of the workhouse shall have notice that at the expiration of three months the article beer will be struck out of the officers’ dietary table.” In Whitechapel the Guardians have granted a money payment of £1 a quarter in lieu of beer to such of their officers as give a written promise not to supply themselves with beer from other sources.

OFFICIAL REPORT UPON RETREATS FOR INEBRIATES.—Mr. H. W. Hoffman, Inspector of Retreats under the Habitual Drunkards Act of 1879, has issued his third annual report dealing with the only two licensed establishments then opened, at Cannock and Westgate-on-Sea. He states that “the results of treatment have been, on the whole, satisfactory.” In regard to the Dalrymple Home, recently opened under hopeful auspices at Rickmansworth, the inspector says:—“An examination of its programme leads me to think it is a well-directed effort to give the provisions of the Act a fair trial under principles mentioned in my last report, and under circumstances which seem to promise success. I anticipate that much experience of the working of the Act will be gained by this movement.”

BEER IN LUNATIC ASYLUMS.—In a report made of an official visit to Abergavenny Asylum, Dr. Glendenning informed the visiting committee of the Monmouth Board of Guardians that the habitual use of beer had been discontinued, even to those at work, and milk supplied as a substitute. He stated that the house was better and quieter for it generally, and more easily managed. He also stated that, in his opinion, seven-tenths of the brain diseases were attributable, directly or indirectly, to the patients’ own excessive use of stimulants, or hereditarily to the evil effect of alcohol. The total cost for beer, brandy, and wine for the past year was £9. The present cost to the board is about £5. 2d. per week. The same committee visited Gloucester Asylum. Dr. Craddock stated that he had reduced the supply of beer to the asylum by 350 gallons per week, with no ill effect.
DR. T. LAUDER BRUNTON ON "THE INFLUENCE OF STIMULANTS AND NARCOTICS ON HEALTH."

By AXEL GUSTAFSON.

In his paper on The Influence of Stimulants and Narcotics on Health, Dr. T. Lauder Brunton furnishes one of the most important contributions that have lately been made to the alcohol controversy.

Among its positive merits are its eminent suggestiveness and its dealing with a number of alcoholic manifestations or symptoms which have been touched upon by very few if any other authorities on this subject. Yet I think I may be found justified for saying that it is rather for what may, logically speaking, be called its defects, that Dr. Brunton's paper demands, at this stage of the drink-discussion, special consideration.

Truth has nothing to fear from light, and the more testimony—however conflicting—we get on this paramount question of human well-being, the sooner will it become patent that scientists are not even to-day competent to speak authoritatively on the whole

* Dr. T. L. Brunton, Editor of the Practitioner; Lecturer on Materia Medica and Therapeutics; Assistant Physician at St. Bartholomew's Hospital; Examiner in Materia Medica at the University of London; and author of Part III. Digestion and Secretion, in the Handbook for the Physiological Laboratory, edited by Dr. J. Burdon-Sanderson. (London, 1873.)

The Book of Health (Cassell & Co., London, 1883); a Popular Symposium on Health, contributed to by twenty eminent physicians; the whole edited by Dr. Malcolm Morris, the well-known lecturer on Dermatology, and Surgeon of the Skin department of St. Mary's Hospital.
question of alcohol and the human system; and the sooner thereby will scientists be urged by conscience, and by the pressure of public inquiry, to do their utmost in finding and formulating clearly demonstrable data.

In the brief space allotted me in these pages I cannot attempt a thorough review of Dr. Brunton's paper; I can only point out its inconsistency, which, in the proportion that he is trusted as an authority, seems to me to fix a very grave and pressing responsibility upon those who are qualified to teach the truth on the alcohol question.

§ 1. In defining stimulants and narcotics (page 183), Dr. Brunton says:—

"By stimulants, we mean those things which seem to increase our vital powers for the time being, and thus to give us feelings of greater strength or comfort. By narcotics, we mean such substances as lessen our relationship with the external world. When used to a slight extent, narcotics simply afford pleasure by lessening the restraining or depressing effect which external circumstances exert upon the individual. Small quantities thus allow freer play to fancy, and produce a joyousness and thoughtlessness like that of a child whose animal spirits have not been depressed by the wear and tear of life; but in large quantities they abolish all the mental faculties, and render the person who has taken them completely torpid, and incapable of any voluntary thought or action."

That is, briefly, stimulants are deceivers of the body, seeming to do what is not done; and narcotics are deceivers of the mind by superinducing upon it, irrespective of real condition, the "joyousness and thoughtlessness" of happy childhood. The man therefore who takes these substances into his body, whether he does it knowingly or in ignorance of their character and effects, shirks the responsibilities of his manhood, and to as little purpose, so far as escaping final consequences is concerned, as the ostrich buries its head in the sand to elude the pursuing hunter; and as senselessly as a man who, seeing his house on fire, shuts his eyes by way of quenching the flames.

Now Dr. Brunton includes alcohol (page 183) under both categories, as follows:—

"The most important of these stimulants is alcohol—in its various forms of wines, spirits, and beer, &c. The most important narcotics are, alcohol again, in its different forms, tobacco, opium, chloral."

The outcome of his investigations seeming to be, that alcohol is a stimulant or narcotic according to the quantity ingested.

Having already said (p. 183) that stimulants and narcotics "cannot be regarded as food;" and having defined foods (p. 187) to be "the substances which serve as fuel, or as material for the repair of the body," he states that "stimulants do not necessarily serve as fuel or material for repair, although some may do so to a certain extent, and others may lessen the need for food by
Dr. T. Lauder Brunton on Stimulants and Narcotics.

diminishing the wear and tear, just as a free supply of oil lessens wear and tear in a steam-engine;" ... and then "if we examine the question dispassionately we shall probably come to the conclusion that alcohol is a food,* although for healthy persons it is not a convenient food;" but (p. 239) in "moderation it may be taken as a luxury for healthy people."

This completes one of the circles of Dr. Brunton's argument; but there are concentric circles of this quality of logic, all formed and linked into one another with a baffling facility of derangement; and through these hoops, in and out around the arena, ambles the Doctor, with a graceful appearance of reaching a goal that is quite startling to a man accustomed to long, honest, difficult stretches, straight across hill and dale, to a real destination.

§ 2. As to the last position mentioned—that alcohol may be a luxury for healthy people, we read, on p. 186, that "one of the most powerful stimulants to the circulation is heat, one of the most powerful depressants is cold;" and (p. 195), "at a few degrees below the normal the vital functions completely cease, and a rise of a few degrees above will cause their permanent arrest, and the speedy death," &c. Devoting several pages to the paralytic action of alcohol on the vaso-motor nerves, and the consequent dilation of the capillaries, he says (p. 195), "when the cutaneous vessels dilate, the warm blood from the interior rushes freely through them, the skin itself becomes very warm, and if the external air be cold this warmth is rapidly abstracted;" and on p. 194: "all the powers of the body are maintained by processes of combustion," by means of oxygen carried to all parts of the blood. "Binz, Schmiedeberg and others have shown that one of the effects of alcohol is to lessen this oxygen-carrying power of the blood, and thus to interfere with the combustion which takes place in the various parts of the healthy body, and is so necessary to the maintenance of their functions."

* "The chief claim alcohol has to the name of food," says Dr. Brunton (p. 188), "is that although, like sugar, it will not support life when given alone," (it would be interesting to know what food elements will support life when given alone), "it will help to do so when given with other foods. Thus Hammond observed that when he put himself upon an insufficient diet, he lost weight daily, but when he added to this diet a little alcohol, instead of losing, he began to gain weight." It is extraordinary that a physician of Dr. Brunton's standing should cite the results of Dr. William A. Hammond's experiments as proof that alcohol is food. As will be seen, Dr. Brunton, later on in his article, lays emphasis on the harm done by alcohol in lessening oxidation; causing a smothering of the vital fire, fall of temperature, degeneration of blood, retention of refuse, and retardation of tissue renewal; by all these processes increasing man's weight by turning him into a preserved-compost repository!—a chief reason, according to Dr. Brunton, for regarding alcohol as a food.
But lessened combustion is a still further lowering of the temperature, the evenness of which is so precious to health. Thus, alcohol is a powerful depressant, a weakener of the circulation which (p. 185) "causes the brain and the muscles to be more imperfectly nourished," the effects of which (p. 186), are seen in "the gloomy view of things" taken by the victim of this condition.

Surely such results as these do not aptly illustrate the meaning that we naturally attach to such a phrase as "a luxury for healthy people!" The first of all luxuries is health, and that which tends to undermine health is a poor thing to recommend, under any name, to healthy people.* And indeed Dr. Brunton himself finds it (p. 184) "very odd that men should put into their mouths a poison which may steal away their brains."

The danger of indulgence in this luxury for healthy people is pointed out by Dr. Brunton in these words:—"It is, however, in those people in whom the pleasure is greatest that the danger of being led into excess is also greatest" (p. 240). And again he deprecates the use of any of it by healthy people in these words:—"Alcohol undergoes combustion in the body, but at the same time it tends to lessen the combustion of other things. In healthy people this is, of course, a disadvantage, because it is by the combustion of our food that our strength is maintained. Alcohol is, therefore, for healthy people a very inconvenient form of food" (p. 189); adding, "The effect of alcohol no doubt is to give the individual temporary pleasure and forgetfulness of sorrow; but it is a pleasure dearly purchased, as in most cases it simply increases the misery afterwards, and hurries him along the road to ruin" (p. 204); and, "Those in whom the will is weak and the emotions strong are more liable to the temptations of alcohol than persons of a harder and sterner nature; but in some persons there seems to be a special tendency to drunkenness—a special craving for alcohol apart from any tendency which the general disposition would lead one to expect" (p. 213).

In the lists of physically healthy people are many of these weak-willed ones, whose "special tendency to drunkenness," whose "special craving for alcohol," will quickly pick out from Dr. Brunton's inconsistent dicta this perilous hint that alcohol is a luxury for healthy people.

§ 3. In treating of the influence of alcohol on the digestion, Dr. Brunton is equally inconclusive. Alluding to the famous case of the Canadian hunter, St. Martin,—whose stomach was experi-

* In the symposium on the Alcohol question in the Contemporary Review (1878), Dr. Brunton said:—"As long as a man is healthy, eating well and sleeping well, he does not need alcohol; and, as a rule, is better without it."
mented upon with alcohol by means of a healed gunshot wound which remained open sufficiently for purposes of direct observation,—Dr. Brunton describes, as the result of the ingestion of alcohol in St. Martin’s stomach, that it displayed “extensive congestion, with livid spots on the surface from which small drops of grumous blood exuded. . . . The gastric juice was mixed with thick ropy mucous and ropy purulent matter slightly tinged with blood,” yet “St. Martin complained of hardly any symptoms; . . . he rested normally, slept well and had a good appetite.” Dr. Brunton goes on to show that this result—that of the stomach being in such a condition without the man being made conscious of it—like paralysis of the vaso-motor nerves, is due to the paralysing nature of alcohol on the nervous system.

In his résumé, he states the following puzzle:—

“The solvent principle of the gastric juice is pepsine, a substance which is insoluble in alcohol and can be precipitated from gastric juice by mixing the latter with alcohol. Gastric juice mixed with much alcohol has no digestive power. Even when the quantity of alcohol is insufficient to precipitate the pepsine, it seriously impairs its digestive properties. We can readily see, then, that a large quantity of alcohol will be very detrimental indeed to digestion although a small quantity may be innocuous or even beneficial!”

It is true that small doses of alcohol increase the secretion of the gastric juice, but, in spite of this fact, if the alcohol remained in the stomach as long a time as foods generally remain there it would ruin digestion. Even Drs. Todd and Bowman, in their “Physiological Anatomy” (Vol. II., p. 210), say that “The use of alcoholic stimulants retards digestion by coagulating the pepsine, and thereby interfering with its action. Were it not that wine and spirits are rapidly absorbed the introduction of them into the stomach would be a complete bar to the solution of the food, as the pepsine would be precipitated from solution as quickly as it was secreted by the stomach.” Owing to the chemical affinity of alcohol for water, and owing also to those laws—in their action seeming so like unto conscious wisdom—by which the body minimises harmful and utilises helpful influences to the utmost, alcohol is quickly absorbed into the blood. Meanwhile, the copious flow of gastric juice it has provoked in the stomach undoubtedly furthers digestion of the food then on hand, but at a needless expenditure of this precious juice itself, nor can even so much benefit be gained for more than a brief period.

As has been already seen, Dr. Brunton admits the effect alcohol has in reducing bodily temperature, and hence interfering with the processes of nutrition: to this succeeds systemic degeneration, and the gastric juice, itself an outcome of the blood, must like all other constituents of the body,—and in the measure that the blood is alcoholised and thus degraded,—also become degraded and finally unfit for digestive work, and hence chronic indigestion with all its accumulating miseries.
§ 4. As to the working of alcohol after it enters the blood-current, Dr. Brunton makes similar statements of facts at variance with conclusions. For example, on page 204, he says:—

"Closely associated, in the medulla oblongata, with the nerve-centre governing the heart, is one which regulates the size of the vessels. This is also affected reflexly by alcohol. The consequence of this is that the vessels in the stomach itself dilate; its mucous membrane becomes rosily red, and secretes freely; the vessels throughout the body also dilate; the skin is covered with a rosy blush; a free supply of blood is sent to the brain; thought becomes more ready, and bodily exertion more easy. The increased supply of blood to the stomach, to the skin, and to the nervous system, have beneficial effects on these parts, which we shall presently consider more in detail."

But after this promise of increased readiness of thought and free supply of blood to the brain, we are told (p. 220),

"But hot toddy has sometimes a soothing and sudorific, instead of a stimulating, action; and persons who suffer from sleeplessness sometimes find this relieved more readily by hot brandy-and-water than by any narcotic. The reason of this is, that the condition of sleep is associated with a scanty supply of blood to the brain, whereas mental activity requires an abundant supply."

And for the promised detail of beneficial effects, we find that (p. 204)

"Everything that is taken into the stomach and absorbed from it by the blood must needs pass through the liver before it can get into the general blood stream by which it is to reach the brain and kidneys. We naturally expect that the liver would be likely to suffer from any irritant taken into the stomach and readily absorbed like alcohol, and this is the case. From the effect of the alcohol the liver is apt to become larger and its structure loaded with fat, while the connective tissue which holds together the secreting cells which compose the main part of its bulk also increases. By-and-by, the fat becomes absorbed, the connective tissue encroaches more and more on the secreting structure and also on the blood-vessels, the liver becomes small and hard, the flow of blood throughout from the stomach and intestines is impeded, fluid consequently accumulates in the abdominal cavity, and dropsy is the result. Sometimes this occurs in men whose nervous system, stomach, and kidneys appear to have suffered but little; their faculties remaining unimpaired, their appetite being good—or at least fair; and the dropsy being limited to the abdomen. In others, again, the kidneys suffer more, and then the dropsy extends to the whole body, and not unfrequently the patient dies from stupor or convulsions, due to the accumulation within the body of the waste products which his diseased kidneys are unable to eliminate. In others, again, the nervous system suffers most: the will may be impaired, and the individual become vacillating; the moral sense is diminished, and the distinction between right and wrong, between truth and falsehood, is less clearly perceived; the power of self-restraint gradually disappears, and although the individual may show great compunction for his failings, he is unable to resist temptation, and yields to it as often as it presents itself. He may appear to cherish kindly and loving feelings towards his family and neighbours, but these are chiefly subjective, and do not lead to definite action; for although he may see that he is causing them the most intense miseries by his conduct, he continues his course, while he may at the same time loudly bewail its consequences; again and again he may take the pledge, and again and again he breaks it; his will has been destroyed by the poison, and he is now helpless to resist. The recoveries from a condition of confirmed drunkenness are few, but they do occur."
A substance whose effects, in whatever quantity taken, can be truly thus described, is a strange luxury for the healthy, especially when we are told it is taken because it gives pleasure, and that it is "in those people in whom the pleasure is greatest"—these would certainly be the healthy ones—"that the danger of being led into excess is greatest."

Again, as to the beneficial effects of alcohol on the nervous system, of course, chiefly involving the brain, we find Dr. Brunton saying (p. 215)—

"It must be remembered that alcohol does not in itself give strength, it only enables a man to draw more rapidly upon his resources. ... the brain which has been stimulated by alcohol to unusual exertion, if called upon shortly afterward, will not respond to the demand unless aided by a reversion of the stimulus. For a while this state of things may go on, but by-and-by the constant action of the alcohol begins to tell upon the brain; its powers become permanently diminished, the former brilliancy and ability disappear, and then the unfortunate continues to drink, not for the purpose of increasing his powers, but for that of enabling him temporarily to forget his weakness and failure, and the sorrow and disappointment which it occasions him. Each repeated indulgence weakens him, further increases his despondency and vexation, and thus renders the craving for temporary oblivion through intoxication more and more imperative. ... If the temptation be once yielded to, the stimulus must be frequently repeated; but the frequent repetition tends to dull the faculties, and thus to render necessary larger draughts as well as more frequent repetition. The men who suffer from temptation of this sort are frequently of harder material and of less emotional natures than those whom we have already mentioned as falling into the snares of social indulgence. They may continue to go on stimulating their powers by frequent small draughts or nips for years together, and though their strong nervous system may resist the direct effect of the alcohol, their other organs suffer, and they die from disease of the liver or of the kidneys. In some the connective tissue increases in the liver (as has already been mentioned), obstruction to the flow of blood through it ensues, the veins of the stomach and intestines can no longer pour the blood into the general circulation, the stomach and intestines become congested, the appetite fails, and when the man goes home after his day's work is over he finds that instead of taking a hearty dinner he is perhaps able only to take a mouthful or two of soup, and hardly any solid food. To sustain his strength, as he supposes, he takes wine or spirits, and thus matters go on from bad to worse.

"Sometimes a vessel gives way in the stomach, and vomiting of blood occurs, which is sometimes so severe as to carry off a patient in a few days, or even hours; or the congestion of the intestines begins to be marked. They become flatulently distended, then fluid is poured out into the peritoneal cavity, and the prominent abdomen, at first resonant and tympanitic, gradually gives a duller note on percussion, as it becomes filled with water instead of wind with the increasing dropy. ... In some men of business, accustomed to alcoholic stimulants, the nervous system, instead of resisting the effects of the poison, begins to fail, and will no longer sufficiently respond to their accustomed stimulus; in consequence of this, they become less successful in business, and lose instead of gaining money. Others again may lose not from any fault of their own, but from circumstances over which they have no control; but the effect of the losses may be the same in both. To escape from the depression which their losses cause, and to enjoy happiness in temporary oblivion, they fly to alcohol. They thus gain temporary relief from
misery; but by further weakening their powers they destroy the last chance which they might have had of retrieving their position, and thus render their ruin certain.

"Trials of strength and skill in various games and sports is another subject of competition in which distinction is greatly prized. In such competitions, however, the temptation to take alcohol is reduced almost to nil, for there it is found that even slight alcoholic indulgence greatly reduces the chances of success. In them it is necessary that co-ordination should be as perfect as possible, and the effect of alcohol is to lessen co-ordination temporarily when a single dose of it is taken, and to affect it permanently when it is regularly indulged in. When out on the moors, a glass or two of wine taken at lunch will often so derange co-ordination as to spoil a man's shooting for the rest of the day; and while he has made a good bag in the forenoon, he may go on missing bird after bird in the afternoon. Some of the best shots at Wimbledon have been teetotalers, and Dr. Carver, whose shooting is probably unrivalled has never tasted a drop of alcohol in his life. The necessity for strict limitation of, if not entire abstention from, alcoholic drinks, is universally recognised in training for races, and it is probable that the man who indulged in a glass of brandy before a boat-race would be executed by all those interested in his success."

Comparing the longevity of moderate drinkers and total abstainers, Dr. Brunton says (p. 233):

"Proof of the increase in longevity caused by total abstinence from alcohol, even as compared with its moderate use, is given by the statistics of the United Kingdom Temperance and General Provident Institution. This office consists of two sections—one of total abstainers, and another of moderate drinkers. Intemperate persons are of course excluded, as neither this nor any other insurance company will accept the lives, on any terms, of persons who are known to be intemperate. The two sections are exactly alike in every other respect, about twenty thousand lives being assured in the general section, and ten thousand in the temperance section. The quinquennial bonuses in the temperate section have been 17 1/2 times greater than those in the general section, and the accompanying table will show how much less the mortality is in the abstinence than in the general section":

<table>
<thead>
<tr>
<th>Expected deaths</th>
<th>Abstinence</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>2,002</td>
<td>3,450</td>
</tr>
<tr>
<td>Actual</td>
<td>1,433</td>
<td>3,444</td>
</tr>
</tbody>
</table>

Actual number of deaths less than expected ... 569 ... 6

Percentage of actual less than expected deaths 28 3/42 (nearly 28½) 17 (nearly 17th).

§ 6. Referring to alcoholic heredity, he says (p. 235):

"The morbid changes which occur in cases of hereditary alcoholic tendencies consist in inflammatory lesions of the nerve centres, which vary according to the age at which they occur in the foetus, the child, or adult. During the foetal condition, the changes are those of arrested development. The most complete is that where the brain is almost entirely absent, as in an encephalophalous infant, which is born without any brain. Another is that in which atrophy of the brain occurring during foetal life or early childhood is partial instead of being complete, and affects only one-half of the organ. Such cases are generally accompanied by a deformity of the head, by epilepsy, and by hemiplegia with atrophy of the paralysed limbs. Sometimes the development of the whole brain is partially, instead of being completely, arrested, and the head is then very small; the individual is idiotic, and sometimes paralysed in the lower extremities also. Out of 83 epileptic children or youths examined
by M. Martin, 60 were the children of parents given to drink; and in 23 drunkenness was not ascertained. In 60 families to which the patients of the first series belonged the number of children had been 301; but out of those, 132 were dead at the time the observations were made. Out of the 169 surviving, there were 60 epileptics, 48 had had convulsions in early life, and only 64 could be considered as healthy. The 23 cases in the second series belonged to 23 families having 106 children, of which 27 were dead. Of the 79 surviving, 23 were epileptic, 10 had convulsions in early life, and 46 appeared healthy; a great number of these children also were paralytic and badly made."

§ 7. Concerning alcohol as a cause of poverty, he says, "There can be no doubt whatever that drinking is a great cause of pauperism."

§ 8. On the question of substitutes for alcohol, he says (p. 267):—

"The most important experiment, however, on the stimulant action of beef extract was made in the Ashanti campaign of 1874. This has already been alluded to when discussing the action of alcohol, but it may here again be mentioned, that while the stimulating effect of alcohol soon passed off, and was succeeded by greater languor, each successive dose having less stimulating and greater depressing action, the extract of meat was quite as stimulating, left no after depression, and could be repeated without injury. It proved also more stimulating than coffee, and seemed to satisfy hunger and give strength although it did not lessen thirst as the coffee did. The amount of meat extract necessary is about one ounce per diem. The coffee was better than the rum, but the quantity served out was probably insufficient, only one ounce being given, whereas probably no good effect would be obtained from less than two ounces."

"The advantages of beef-tea over alcohol under very different climatic conditions have also been pointed out by the Committee appointed to inquire into the outbreak of scurvy in the Arctic expedition. In the report they say 'that there can be no doubt that the dietetic use of alcohol is to be interdicted in men suffering from any symptoms of scurvy; and wherever its deprivation is not opposed to custom or acquired habit, it would be advisable to refrain from its use as a regular ration in the usual condition of Arctic sledge travelling.' At night, when tea would be inadvisable from its property of interfering with sleep, beef-tea is recommended in place of alcohol."

In another place he says:—

"A glass of warm spirits and water taken at night into the stomach dilates the vessels there, and by thus drawing blood away from the brain enables the person to sleep. But the mixture of spirits and water has the disadvantage that it tends to stimulate the heart, as well as to dilate the vessels of the rest of the body; so that, if it does not produce sleep, it will make the person more wakeful than before. A similar result, and sometimes a better one, can therefore be obtained by using, instead of hot spirits, a large bowl of weak beef-tea or of panada. Heat itself is a stimulant to the heart, and as we do not wish the heart stimulated, but only the vessels of the stomach dilated; while these things, then, should be warm, they should not be too hot. A wet compress over the abdomen is sometimes better than anything taken internally, and is especially useful for sleeplessness in children. Where a local compress fails, a wet pack sometimes succeeds."

And (on p. 210):—

"Instead of trying to remove the depression between eleven and four by taking a glass of wine or spirits, a much better plan is to sip a glass of water, or soda water, and eat a biscuit. If a greater stimulus than this is needed, a glass of hot eau sucrée, with a lemon squeezed into it, may be taken."
On the stimulation of digestion (p. 206):

"All that is wanted seems to be a stimulus to the secretions, and a little salt put upon the tongue will effect the purpose; still better, perhaps, is dried fruit, a few raisins or a fig, a sweet pudding, or a piece of good cheese—all have a similar action. It is not without reason that people have fallen into the plan of taking puddings or stewed fruits at the end of dinner, and finishing up with cheese or dessert."

And again of other stimulants of the circulation (p. 211):

"In running, in climbing, in jumping, in vigorous efforts of any kind, the conditions are different; the abdominal muscles and diaphragm are frequently brought into action at the same time, and thus compression of the liver is effected; thus a quarter of an hour's exercise at lawn tennis, at cricket, at boating, or perhaps even better in riding, is more efficacious in stirring up the liver than an hour and a half, or even more of a languid and constitutional walk. Such is the treatment that ought to be adopted, if possible; but where circumstances render exercise impracticable, the plan is to lessen the quantity of animal food, and to increase the action of the liver by hepatic stimulants. The mere sipping of water is a stimulant of this sort; not only has it the extraordinary action upon the circulation already mentioned, but it increases the quantity of bile and causes it to be secreted under a greater pressure, so much so that it will overcome an obstruction to its entrance to the intestine, such as would otherwise have stopped its flow. A glass of Carlsbad water sipped hot in the morning during dressing is very useful also, and, if necessary, recourse may be had to the powerful hepatic stimulants, euonymine, iridine, leptandrine, podophylline, and others, the action of which has been so carefully investigated by Dr. Rutherford."

Thus showing that we have varied and excellent substitutes for the assumed benefits of alcohol; but not showing, by any language which would really impress the general reader, particularly the general reader who wishes to find authority for moderate drinking, the innocency of these substitutes as contrasted with the many miseries which alcohol inflicts, to say nothing of the danger of the drink-crave, which lurks in every drop of alcohol that finds it way into the human system. Then comes this résumé:

"When drunk, it increases the secretions and movements of the stomach and intestines, and thus, in moderate quantity, may aid digestion; but, in some persons, beer and wine, even in moderation, instead of aiding, may retard digestion; and when gastric catarrh is present may interfere with it most seriously, so that, in such cases, alcohol in every form should be most carefully avoided.

"In acute diseases it seems to aid digestion rather than to interfere with it, and is therefore useful, along with food, in acute diseases—such as fevers, in convalescence from acute diseases, and in chronic wasting diseases—such as consumption.

"It may also be taken in moderation, that is to say in a quantity not exceeding at the utmost two ounces of absolute alcohol in twenty-four hours, either as a luxury by healthy people, or as a medicine by those whose digestion is below par on account of debility from various causes.

"Young and healthy people do not require it, and are better without it.

"Its action on the circulation is to increase the force of the beats of the heart, and the rapidity of the circulation. It is, therefore, useful in conditions of great weakness, where failure of the circulation threatens a fatal issue."
If all men were physicians, or physiologists, qualified by that thorough, reverential, conscientious study of the body and the mind which alone can warrant a man to enter the profession of human repair, there would be no occasion for anyone to discuss Dr. Brunton's paper. As it is, there is no occasion so far as doctors are concerned; they are, or ought to be, able to take care of themselves.

But there is occasion for physicians and scientists to take the matter up in behalf of the great majority of the people, both the learned and the ignorant, who are not only not doctors, but who, busy in their own fields, have not looked into the physician's, and trust in him blindly. Those who can reason soundly, and detach the specious from the unequivocal are far out-numbered by those who can argue brilliantly, without soundness, from some selfish motive, and fence with Truth with such dexterous flashing of weapons that she is put to shame, and made to seem the liar. The weak in will are more numerous than the strong; the self-indulgent more numerous than the self-denying.

To all these, who are legion, it is but common justice and honour that matters of the utmost importance to their well-being and their very life should be explained to them in terms that cannot confuse the honest seekers after knowledge; that cannot be mistaken by the most unwary, or be warped by the weakly self-indulgent into authority for further excesses. That which can ruin body and soul, and which does ruin them in a greater degree than does any other agency inimical to man, and whose initiative in this fell work is through conferring pretended benefits, cannot be truly —cannot be guiltlessly—defined to the people as beneficial in any sense, or at any time, or as a permissible luxury for those already enjoying that luxury which it most insidiously undermines and destroys—health.

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**ALCOHOL IN HOSPITALS.**

In September, 1883, a discussion arose upon the general economy of our public hospitals, and, in the course of this discussion, a gentleman offered to give £1,000 to any large hospital which would fairly test the treatment of disease and injury without the use of alcohol under circumstances similar to those in which alcohol was used.

In consequence of this offer the Rev. Dr. Burns and Mr. Thomas Cash (of the Temperance and General Provident Institution), addressed letters to the following hospitals in London:
The London, St. George’s,
Bartholomew’s, Royal Free,
Guy’s, St. Mary’s,
King’s College, The German,
Westminster, Middlesex,
Charing Cross Women’s Free Hospital
and to the following six hospitals in the provinces:—
Liverpool, Manchester,
Birmingham, Leeds,
Sussex County, Hull.
The letters thus addressed were as follows:—

"We have had a letter from a benevolent gentleman deeply interested in hospital practice, who proposes to place £1,000 in the hands of trustees, to be given to any hospital having at least 100 beds, the managers of which would be willing to give to the treatment of disease and of surgical cases without alcohol either in diet or medicine, a trial as full as is now given to the use of alcoholic compounds in such cases. He is only anxious that a perfectly just and scientific comparison should be instituted between the two systems in the same hospital for not less than a year, and in two adjoining wards. If the principle of such a comparison is admitted, he will be prepared to discuss the conditions regulating the experiment."

Inspired by the anticipation that his offer if accepted would result in the collection of a large body of verified facts, throwing light upon the points above named, this gentleman hoped that the managers and medical officers of the hospitals addressed would see their way to make the experiment desired. He regretted to find that in no single case was the offer accepted. The managers referred the letters to their medical officers, and these seem uniformly to have shrunk from advising the managers to reply in the affirmative.

There is no wish to cast blame upon these medical gentlemen. They are not yet persuaded that it is possible, satisfactorily, to treat all kinds of diseases without resort to alcohol in some form, and having a regard to the lives and health of their patients, they have declined to submit to the limitation which an acceptance of the offer involved. Their motives are to be commended, though further experience may show how groundless their fears have been, and that they have omitted to carry out the Baconian principle of eliminating supposed causes in order to arrive at a knowledge of true causes in relation to observed phenomena. But, while disappointed in his primary object, the intended donor was gratified by the manner in which his offer was received, and by many of the statements contained in the letters from the officials of the various Institutions. As it is no breach of confidence to refer to the contents of these communications he ventures to furnish the following extracts, which show that considerable thought and care are exercised upon this sub-
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ject, and that a great improvement, as compared with the past, has occurred and is yet in progress.

The following are extracts from the replies:—

Manchester Royal Infirmary (W. L. Saunders, Secretary):—

"Alcohol in its various forms is given in this Hospital as a medicine, and not as an article of diet."

Westminster Hospital (S. M. Quennell, Secretary):—

"Alcohol is only administered to patients as a medicine, and an inquiry instituted a few years ago by St. George's Hospital elicited the fact that our patients received considerably less alcohol than those of any other general Hospital in London."

New Hospital for Women (Mrs. Dr. Anderson):—

"I am sure the stimulants are often given and taken without due consideration; and, partly owing to your representations, pressure has been brought to bear upon all the physicians of the New Hospital to be both careful and slow in ordering stimulants. Hence the reduction you note in the annual expenditure."

Charing Cross Hospital (A. Reade, Secretary):—

"There are many patients who pass through the Hospital without touching a drop of alcohol, and there are some whose lives may be attributed to its effects."

London Hospital (A. H. Hoggard, Secretary):—

"The House Committee are fully conscious of the propriety of reducing the use of stimulants as much as possible, and they have at this moment under consideration the proper measure to be taken for that purpose."

Hull General Infirmary. The Medical Staff states that:—

"Alcohol is never used as an article of diet in the Infirmary."

It should be known that the treatment which the benevolent donor thus desired to test has already been adopted in the London Temperance Hospital for the last ten years, and the results seem to show that great advantage has accrued to the finances of the hospital, as well as to the physical and moral welfare of the patients. Up to the end of February, 1884, the London Temperance Hospital received 2,200 patients requiring treatment in its beds, and the medical officers are of opinion that the total exclusion of alcohol from the meal-table and from the pharmacy of the hospital, and its almost total exclusion from their medical prescriptions, has been advantageous to the patients. In this hospital the medical officers are not tied as to the prescription of alcohol if they think that it should be used as a medicine. It is only stipulated that alcoholic beverages have no place in the hospital dietary, and that, in cases where the visiting medical officers think alcohol necessary, they shall, at the time of ordering it, record their prescription in a book kept for the purpose, together with their reasons for ordering it, and that afterwards they shall record the results which they have observed to follow the use of the
alcohol. As a mere pharmaceutical vehicle alcohol has been
superseded by glycerine, a solution of which is found to make
excellent tinctures. It was with the view of putting the practice
thus developed at the Temperance Hospital to a wider test, under
the observation of other experienced hospital physicians and
surgeons, that this donation of £1,000 was anonymously offered.
The lavish use of alcohol in the treatment of disease was a
medical fashion that followed upon the disuse of the bleeding
and mercurialising treatment of a former generation. The fashion
was chiefly brought in by the late Dr. Todd, of King’s College
Hospital, a medical teacher of great ability, and a physician of
great eminence, whose example and teachings had a most pre-
judicial effect upon the then rising generation of medical men.
In the year 1867, in a volume published by Mr. Skey,* F.R.S.,
consulting surgeon to Bartholomew’s Hospital, and which con-
sisted of six lectures given to the students, Mr. Skey writes:—

“During the last forty years the treatment of disease has undergone great
and important changes, and up to a later date the use of wine was very excep-
tional. I do not overstate the case when I affirm that, within the period I have
mentioned, the consumption of wine and brandy in the London hospitals has
increased at least fourfold; and I may here relate an anecdote which confirms
the above statement. It has, I believe, been before published; but I deem it
right to bring it again under your notice. In the year 1848 the Treasurer of
the Hospital commented on the quantity of wine I ordered for my patients.
He said the hospital could not warrant the large expense. I inquired the
number of my patients—550; and the wine consumed was three pipes per
annum. I told the worthy treasurer that the consumption of wine quite sur-
prised me; that I could not understand how my colleagues could manage their
cases, for that I could not treat hospital cases without wine; and I assured
the treasurer I would do my best for the credit of the hospital to raise the
consumption of port wine from three pipes a year to thirteen, and that nothing
less would satisfy me or my convictions. Twelve years elapsed, when I was
again addressed by the successor of the then treasurer on some matters con-
ected with the diet scale of the hospital. On inquiry into the consumption
of port wine, he appealed to the apothecary, who, referring to his wine book,
announced the quantity consumed to be thirteen pipes! I was on the previous
occasion the great delinquent, but now, as the treasurer declared, ‘You are
all nearly equally bad, although you still head the list,’ and the same change in
the treatment prevails more or less in every hospital in London.”

It is needless to multiply quotations in order to prove, that
among English medical and surgical leaders the routine and indis-
criminate use of alcohol had become a craze. This craze was utterly
at variance with the views upon which professional leaders of the
preceding generation had founded their practice, and, in fact, it
amounted to a violent revulsion in the treatment of disease. The
fashion thus set in our great medical schools carried with it a
large proportion of the rising generation of practitioners, while

those who dissented from this use of "stimulants" found themselves exposed to professional disparagement whenever their patients did not recover. Intelligent laymen soon saw that this medical fashion was responsible for a great extension of drunkenness into family life. Benevolent workers in temperance reform saw their efforts neutralised by the prescription of alcohol to the members of their societies whenever they happened to be sick. Among nursing mothers, among delicate ladies, among young people, an appalling amount of drunkenness of a novel character occurred; while among inebriates who had been reclaimed with great effort, relapses into drunkenness and misery very generally followed any little sickness which brought them into contact with the doctor. This state of things provoked a resolute resistance to professional prescription on the part of those who had devoted themselves to the reformation of inebriates and to the prevention of drinking habits among the younger members of the community. Angry discussion ensued, and much professional indignation was expended upon laymen who had the audacity to criticise the character of the medical advice which their families received.

In 1871, under the heading "Drawing-room Alcoholisation," the Saturday Review openly charged the medical profession with the manufacture of drunkenness. Dr. Anstie, the then editor of the Practitioner, referring to these articles, wrote as follows:—

"In commencing the consideration of these very grave statements, we shall at once admit our belief that they are to some extent true; and we may remind our readers that, more than eighteen months since, we endeavoured, though in more cautious language and with more specific illustration by particular cases, to arouse the attention of the profession to the existence of these evils."

During the discussion thus provoked it was found that the mortality in the fever hospitals of Glasgow, under Drs. Gairdner and Russell, had been much less than that under Dr. Todd in King's College Hospital. Dr. Todd's cases showed a mortality of about 25 per cent. in typhus and of about 20 per cent. in typhoid fever, whereas, in the cases of Dr. Gairdner at the Glasgow Royal Infirmary, who "used alcohol with extreme caution, and, in the majority of cases, not at all," the mortality was less than 12 per cent. Other facts also showed that this new medical fashion not only demoralised the patients who recovered, but actually damaged their chance of recovering. But, meanwhile, a whole generation of medical men had been educated in the metropolitan schools, under teachers who, like Mr. Skey at Bartholomew's and Dr. Todd at King's College, actually plumped themselves upon the new fashion which they had set in regard to the prescription of alcohol. These young men, in the districts where they had commenced practice, had committed themselves
to the new fashion, and often had made credit by contemning and
disparaging the practice of local seniors who had not adopted it;
consequently the charges made by laymen against this new
medical fashion excited violent hostility, and, indeed, were often
regarded as personal attacks by those whose practice in this
respect had been particularly pronounced. But lay criticism and
lay resistance became more and more determined as the results
of this practice developed themselves. Strenuous assistance,
also, to these lay efforts had been afforded by a very small
number of able medical men who, from the first, set themselves
against the new fashion, and who unselfishly braved professional
odium by what was then looked upon as a species of professional
insubordination; and, so soon as the tide had turned, large num-
bers of medical workers publicly joined the cause. In 1876, at
the instance of Dr. Ridge, of Enfield, the British Medical Tem-
perance Association was founded, and with Dr. Edmunds as its
first president, a valuable society was established which now,
under the presidency of Dr. Richardson, numbers some 300
registered members of the medical profession, all personally
abstainers. The antagonism to this use of alcohol has therefore
now obtained very large support within the medical profession,
while the personal hostility which earlier circumstances excited
has practically subsided.

In 1867 a well devised effort was made to test the temperance
practice at one of the London Lying-in Hospitals, and the plan
worked admirably for one year. So much opposition was then
aroused—chiefly among subscribers who were interested in the
trades of brewing and distilling—that the effort was abandoned,
and a large body of new subscribers withdrew from the hospital.

In 1873, however, this effort was followed up by the establish-
ment of an independent General Hospital in London, and to this
undertaking the pecuniary support and personal effort which had
been promised to the other hospital was directed. Thus arose
the London Temperance Hospital which now occupies a grand
freehold building upon one of the main thoroughfares in London.
This hospital now has 116 beds and a large out-door department;
it is free from debt, and its operations for 10½ years have been
continuously sustained—all by voluntary contributions during a
period of general depression in which many other London hos-
pitals have been drifting into pecuniary difficulties. These results
are a clear indication of the force of the present lay sentiment
upon the alcohol question. Since the establishment of the
Temperance Hospital, hospital patients have been scientifically
treated apart from the routine and indiscriminate prescription of
intoxicants which was in vogue. The courage, sound judgment,
and ability with which its physicians and surgeons have carried
on the great experiment which was entrusted to their hands has happily prevented any complication or failure in the work, and already the results have demonstrated at every point that the gravest surgical operations and medical cases can be treated perfectly well without alcohol at all. The example thus set at the Temperance Hospital has exerted a considerable influence upon medical opinion throughout the world.

The Medical Declaration of 1871, framed by the late Dr. Parkes, Mr. Ernest Hart, and Mr. Robert Rae, and which was signed by some 250 hospital physicians and surgeons, protested against the then existing "inconsiderate prescription of large quantities of alcoholic liquids." The publication of this declaration in the journals came upon the profession and the public like a thunderbolt, and thenceforth the question of using or of not using alcohol in medical practice was an open one for the younger practitioners. From that date the prescription of alcohol has been continuously debated in medical circles, and with a continuously decreasing proportion of eminent men to advocate it. In poor law medical practice comparison has demonstrated that the lessened consumption of alcohol has saved large sums of the ratepayers' money, and has been followed by better results among the sick poor. In many large hospitals the use of alcohol has already gone back to the point from which Mr. Skey boasted that he had raised it, and every day produces a growing conviction that at those hospitals where the medical officers still use alcohol the most freely, there the death-rates remain the highest.

The question now is whether this diminished use of alcohol may not be safely and judiciously carried to a still greater extent? Whether alcohol is indeed a remedial agent in cases where patients actually recover; and whether where its administration is of any value, some substitute may not be given, productive of equally good effects without the moral risks inseparable in modern society from the medical prescription of intoxicating drinks?

In an address delivered by Charles J. Hare, M.D. Cantab., F.R.C.P., Physician to University College Hospital, &c., at the Annual Meeting of the Metropolitan Counties Branch of the British Medical Association, under the title of "Good Remedies out of Fashion," some admirable remarks are offered on the "wild mania for giving alcohol," prevalent not very long ago, together with some valuable statistics collected by Dr. Hare, as to the cost of alcoholic drinks and other articles at various periods. These figures testify to an almost universal diminution of expenditure on alcohol during recent years in our leading London hospitals. The question naturally arises, whether a limit has been reached in this diminished cost of alcohol, and reliance
upon its therapeutic operation? The writer is strongly of opinion that the medical officers of these great institutions have as yet only entered upon a course, the value of which will become more evident the farther they proceed in the same direction. Of one thing he is firmly convinced—that the continued discussion of this question cannot but lead to extended researches, by which the truth respecting it will become more clearly manifest. All the parties concerned have a deep interest in the solution of the problem. The managers of such institutions desire to conduct them so as to yield the best results at the least possible cost. The medical officers, inspired alike by a love of science and humanity, will be more and more prepared to submit the dogma of the value of alcohol to the only sufficient test, viz.—its tentative exclusion from the treatment of the sick. The benevolent public possess a twofold interest in the question as related both to the most economical use of their money, and the wisest application of it for the benefit—physical and moral—of the patients. And the patients themselves are deeply concerned in the adoption of such a method of treatment as will, without detriment to their chances of recovery, preserve them from those dangers which experience has proved to be inseparable from the use of alcohol, whether taken as a beverage or a medicine. The writer will rejoice if the action already described should tend to bring about a change which, he believes, would confer lustre upon medical science, and greatly conduce to the welfare of mankind.

The following portions of Dr. C. J. Hare's* paper, which we have already published, will be read with interest:—

"The period to which I have alluded has seen the rise and the subsidence of the wild mania for giving alcohol in some form or other, in almost every kind and in almost every case of disease, and is now witnessing the rising into favour of the more rational plan of giving nourishment extensively in the mild and bland and usually easily digested form in which nature provides it—milk.

"I well remember the time, twenty to twenty-five years ago, when alcohol giving was so rampant that it was difficult to see a patient who had been a few hours in the hospital before the time of one's visit, who had not already been put, almost as a matter of course, by the physicians or clinical assistant, on three or four ounces of brandy or on double that amount of wine; and because I would not give way to that alcohol-craze, and ventured to show that many serious diseases might be cured with the administration of little or no alcohol, I was considered (I well remember) the most unorthodox of teachers, if not something worse than that. I have always held, and still hold as firmly as anyone does, that alcoholic stimulants are in some cases most valuable remedies, and I would not practise my profession if I might not use them when and where I deem them needful. But I always preached against the foolish, and I would almost say wicked, use of alcohol which was common some years

* British Medical Journal, July 28, 1883.
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ago, and, over and over again I have said in my clinical lectures at that time, that the students I addressed would live to see the day, even if I did not, when the pendulum of opinion would swing in the opposite direction, and when alcohol would be decried almost as much as it was then being overpraised. It is not always, gentlemen, that a prophet lives to see so completely the fulfillment of his own sayings when they foretell a revolution so complete. May a calm judgment guide herein our noble profession, and while we give up the routine and indiscriminate use of the remedy, may we better know how and when to employ it for the benefit of those whose lives are in our hands!

"It is within the knowledge of all of us, then, that a most marked change, has, comparatively recently, taken place as regards this important question of alcohol-giving, and in the belief as to its necessity: our every-day experience, the tone of medical debates, the common current of conversation, all bear evidence in the same direction; but it is almost impossible to treat evidence of this kind, or even the results of private practice, statistically, or to reduce them to a clear tabular form; but it occurred to me that the hospitals might give more definite information. I applied, therefore, to the secretaries of the large metropolitan clinical hospitals, and have received, from all except two, replies containing most interesting, important, and valuable facts, to select and extract which from their books must, I am sure, have cost these gentlemen no small amount of time and trouble. I thank them most sincerely for their courtesy, and have pleasure in thus publicly expressing my obligation to them.

"I trust that the tables which I have thus been enabled to construct will interest you. They place, I think, in a more trenchant and striking light than anything else with which I am acquainted, the rise and fall of excessive alcohol-giving; and it is worthy of remark, as showing the influence, and (may I say) the contagiousness of custom, how very uniform in point of time this rise and fall has been in almost all the hospitals. You must not consider, however, even in these tables as giving more than an approximate idea as to the amount of alcoholic drinks consumed by the hospital patients, because it is impossible to eliminate from the totals the amount taken by the servants, nurses, and others; however, in some cases the wine and spirits are separately named, and it is reasonable to suppose that the working staff would be allowed but very little of these, and that therefore the amount stated represents very closely that used by the patients alone.

"You will see, therefore, how rapid was the increase in the use of alcohol between the years 1852 and 1862, and, indeed, in many cases, up to the year 1872; and you cannot fail to trace therein the great influence of the teachings and writings of Dr. Todd, and especially of his views on the 'Treatment of Acute Diseases.' You see also that even where there was some diminution in the use of alcohol (I refer for the reason above given chiefly to 'the wine and spirit' column of the Table below) between the years 1862 and 1872, the difference was not, generally speaking, large; but when the wrongness and the evils of this excessive use of stimulants began to force themselves upon men's minds, and, thanks to this, and to the careful, prudent, and honest energy of Parkes, a change of practice occurred, the consumption of alcohol diminished so much as to show in 1882 a most remarkable reduction in the cost of wine and spirits in all the hospitals (except St. George's) from which I have received returns. Thus (without making corrections for the somewhat increased number of beds), the cost of wine and spirits consumed every tenth year from 1852 to 1882, at Guy's was £436, £1,231, £1,446, and £953; at Middlesex, £215, £350, £473, and £353; at Westminster, £208, £432, £367, and £137.

"On the other hand, the use of milk has most rapidly increased in every hospital without exception, and has replaced—I believe greatly to the advantage of the patients—the alcohol in the treatment of disease. The quantity consumed in 1852 at St. Bartholemew's cost £684, and in 1882, £2,012; at
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Guy's, £236 and £1,448 respectively; at the London Hospital, £426 and £2,427; and so on.

### Metropolitan Clinical Hospitals: Cost of Alcoholic Drinks and Milk Consumed.

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<th>Middlesex</th>
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<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>1833</td>
<td>20</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>1834</td>
<td>20</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>1835</td>
<td>20</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>1836</td>
<td>20</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>1837</td>
<td>20</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>1838</td>
<td>20</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
<td>£200</td>
</tr>
</tbody>
</table>

As Dr. Hare remarks, the above table "shows, in 1882, a most remarkable reduction in the cost of wine and spirits in all the hospitals except St. George's." It will be asked to whose influence among the medical officers is due this persistence in a practice which is being generally discredited by the medical officers of other London hospitals? To that question the tables afford no reply. Nor do the tables give any data which would show whether this greater expenditure in alcohol at St. George's had been followed by a lesser mortality than at other hospitals.

Early in 1883 a well-known member of the Society of Friends, who has taken a large and benevolent interest in the support of hospitals, addressed a note to the committee of St. George's hospital, calling attention to the fact that among the metropolitan hospitals St. George's occupied "the unique and inevitable position of expending more upon alcoholic beverages than upon milk." The writer offered a donation of £100 if the committee
would institute a tentative comparison of results in two separate wards in their hospital. The offer was declined, and the money became part of a donation which was forwarded to the Temperance Hospital. It would be of general interest scientifically if the medical officers of St. George's Hospital would show in what way the results they have obtained with so large an expenditure upon alcohol are superior to those obtained say at the Westminster Hospital, which spends but little more than one-fourth as much upon alcohol as upon milk. Considering the enormous importance of this "routine and indiscriminate medical prescription of alcohol" to hospital patients—whose diseases and accidents are so largely due to their out-door indulgence in the same medicine—the question arises, How far is this hospital entitled to the support of those who look for a wise administration of their contributions?

On 18th February, 1884, at the Medical Society of London, a valuable paper upon Typhoid Fever was read by Dr. Coupland, of the Middlesex Hospital, and upon this a discussion arose in which the statistics of many of the large metropolitan hospitals were given. The following are the principal data as reported in the British Medical Journal of Feb. 23rd and March 1st:—

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Years</th>
<th>Cases</th>
<th>Deaths</th>
<th>Mortality per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>London Fever</td>
<td>7 years ending 1872</td>
<td>3,707</td>
<td>447</td>
<td>14.3</td>
</tr>
<tr>
<td>Do.</td>
<td>7 do. 1879</td>
<td>550</td>
<td>93</td>
<td>17.0</td>
</tr>
<tr>
<td>Do.</td>
<td>5 do. 1883</td>
<td>355</td>
<td>51</td>
<td>14.9</td>
</tr>
<tr>
<td>Middlesex</td>
<td>6 do. 1883</td>
<td>823</td>
<td>122</td>
<td>14.8</td>
</tr>
<tr>
<td>Guy's</td>
<td>10 do. 1883</td>
<td>440</td>
<td>78</td>
<td>17.7</td>
</tr>
<tr>
<td>St. George's</td>
<td>7 do. 1883</td>
<td>281</td>
<td>69</td>
<td>24.0</td>
</tr>
<tr>
<td>Charité (Berlin)</td>
<td>20 do. 1867</td>
<td>2,228</td>
<td>405</td>
<td>18.0</td>
</tr>
<tr>
<td>Do.</td>
<td>9 do. 1876</td>
<td>2,086</td>
<td>207</td>
<td>13.0</td>
</tr>
<tr>
<td>Prussian Army</td>
<td>7 do. 1874</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Do.</td>
<td>7 do. 1881</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Average in France, as given by Jacond</td>
<td>Old system</td>
<td>80,000</td>
<td>—</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>New system</td>
<td>—</td>
<td>—</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Dr. Coupland's paper was designed to discuss the advantage of the cold bath treatment of typhoid fever. Dividing the treatment of fever into the specific (which had yet to be discovered), the expectant (directed to mitigate the severity of the lesions and complications of the fever), and the antipyretic (which consisted in reducing the fever heat by means of the cold bath and other measures), Dr. Coupland pointed out that the mortality in the London hospitals varied from 15 to 18 per cent.; but that since the adoption of the cold bath system a considerable reduction in the mortality had been effected.
### Summary of all the Cases of Typhoid Fever treated in the London Temperance Hospital to Dec. 31, 1883 (10½ years).

<table>
<thead>
<tr>
<th>No.</th>
<th>Case Book No.</th>
<th>Date of Admission</th>
<th>Initials</th>
<th>Age</th>
<th>Sex</th>
<th>Occupation</th>
<th>Abstainer or Not</th>
<th>Physician in Charge</th>
<th>Date of Discharge</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>Oct. 22, 1873</td>
<td>E. T.</td>
<td>28</td>
<td>M</td>
<td>Painter</td>
<td>Abstainer</td>
<td>Dr. Ridge</td>
<td>Nov. 27, 1873</td>
<td>Recovered</td>
<td>Usual course of symptoms. Excellent recovery.</td>
</tr>
<tr>
<td>2</td>
<td>67</td>
<td>April 17, 1874</td>
<td>S. D.</td>
<td>35</td>
<td>F</td>
<td>Housekeeper</td>
<td>Abstainer 6 yrs.</td>
<td>Dr. Edmunds</td>
<td>May 15, 1874</td>
<td>Recovered</td>
<td>Severe case. Complicated with broncho-pneumonia.</td>
</tr>
<tr>
<td>3</td>
<td>81</td>
<td>May 15, 1874</td>
<td>A. B.</td>
<td>24</td>
<td>F</td>
<td>Housewife</td>
<td>Non-abstainer</td>
<td>Dr. Edmunds</td>
<td>July 31, 1874</td>
<td>Recovered</td>
<td>In very critical state when admitted. Temperature, 104°.</td>
</tr>
<tr>
<td>4</td>
<td>113</td>
<td>Aug. 12, 1874</td>
<td>W. J.</td>
<td>12</td>
<td>M</td>
<td>At school</td>
<td>Abstainer 3 yrs.</td>
<td>Dr. Ridge</td>
<td>Sept. 12, 1874</td>
<td>Recovered</td>
<td>Ordinary case.</td>
</tr>
<tr>
<td>7</td>
<td>420</td>
<td>Dec. 8, 1876</td>
<td>C. F.</td>
<td>23</td>
<td>M</td>
<td>Housewife</td>
<td>Abstainer 12 yrs.</td>
<td>Dr. Edmunds</td>
<td>Oct. 20, 1871</td>
<td>Died</td>
<td>Complicated with pneumonia and diphtheria.</td>
</tr>
<tr>
<td>8</td>
<td>841</td>
<td>June 12, 1877</td>
<td>M. A. A.</td>
<td>33</td>
<td>F</td>
<td>Housewife</td>
<td>Abstainer 8 mos.</td>
<td>Dr. Edmunds</td>
<td>Sept. 3, 1877</td>
<td>Recovered</td>
<td>Complicated with pneumonia.</td>
</tr>
<tr>
<td>9</td>
<td>612</td>
<td>Sept. 25, 1877</td>
<td>G. W.</td>
<td>22</td>
<td>M</td>
<td>Porter</td>
<td>Abstainer 3 yrs.</td>
<td>Dr. Lee</td>
<td>Nov. 24, 1877</td>
<td>Recovered</td>
<td>Complicated with pneumonia, highest temperature, 106°. Good recovery.</td>
</tr>
<tr>
<td>11</td>
<td>618</td>
<td>Aug. 9, 1878</td>
<td>D. T.</td>
<td>12</td>
<td>M</td>
<td>Son of a Bricklayer</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Sept. 29, 1878</td>
<td>Recovered</td>
<td>Complicated with pneumonia and diphtheria.</td>
</tr>
<tr>
<td>13</td>
<td>692</td>
<td>Aug. 2, 1880</td>
<td>E. M.</td>
<td>33</td>
<td>F</td>
<td>None</td>
<td>Non-abstainer</td>
<td>Dr. Edmunds</td>
<td>Aug. 28, 1880</td>
<td>Recovered</td>
<td>Complicated with pneumonia, highest temperature, 104°. Good recovery.</td>
</tr>
<tr>
<td>14</td>
<td>1073</td>
<td>Aug. 2, 1881</td>
<td>M. D.</td>
<td>20</td>
<td>F</td>
<td>Housewife</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Sept. 7, 1881</td>
<td>Recovered</td>
<td>Complicated with pneumonia.</td>
</tr>
<tr>
<td>17</td>
<td>1139</td>
<td>Sept. 27, 1881</td>
<td>W. N.</td>
<td>30</td>
<td>M</td>
<td>Builder</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 16, 1881</td>
<td>Recovered</td>
<td>Complicated with pneumonia and diphtheria.</td>
</tr>
<tr>
<td>18</td>
<td>1172</td>
<td>Nov. 7, 1881</td>
<td>E. E.</td>
<td>19</td>
<td>M</td>
<td>Son of a Bricklayer</td>
<td>Abstainer 3 yrs.</td>
<td>Dr. Edmunds</td>
<td>Dec. 24, 1881</td>
<td>Recovered</td>
<td>Complicated with pneumonia and diphtheria.</td>
</tr>
<tr>
<td>20</td>
<td>1263</td>
<td>Feb. 11, 1882</td>
<td>J. P.</td>
<td>15</td>
<td>M</td>
<td>Typefounder</td>
<td>Non-abstainer</td>
<td>Dr. Edmunds</td>
<td>Moh. 23, 1882</td>
<td>Recovered</td>
<td>Complicated with pneumonia and diphtheria.</td>
</tr>
<tr>
<td>21</td>
<td>1473</td>
<td>Sept. 21, 1882</td>
<td>E. C.</td>
<td>40</td>
<td>F</td>
<td>Housewife</td>
<td>Abstainer</td>
<td>Dr. Lee</td>
<td>Dec. 23, 1882</td>
<td>Recovered</td>
<td>Mild case.</td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Name</td>
<td>Sex</td>
<td>Age</td>
<td>Occupation</td>
<td>Habit</td>
<td>Dr.</td>
<td>Date</td>
<td>Outcome</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>-------------------</td>
<td>-----------</td>
<td>---------</td>
<td>---------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Oct. 16, 1882</td>
<td>D. H.</td>
<td>M</td>
<td>22</td>
<td>Carpenter</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 23, 1882</td>
<td>Recovered</td>
<td>Ordinary case, with slight intestinal hemorrhage.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Nov. 3, 1882</td>
<td>E. R.</td>
<td>M</td>
<td>39</td>
<td>Labourer</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 27, 1882</td>
<td>Recovered</td>
<td>Mild case.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Nov. 18, 1882</td>
<td>F. H.</td>
<td>F</td>
<td>15</td>
<td>Nurse</td>
<td>Abstainer</td>
<td>Dr. Lee</td>
<td>Jan. 5, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Dec. 4, 1882</td>
<td>E. A.</td>
<td>F</td>
<td>25</td>
<td>Housewife</td>
<td>Non-abstainer</td>
<td>Dr. Edmunds</td>
<td>Jan. 27, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Jan. 13, 1883</td>
<td>A. P.</td>
<td>F</td>
<td>15</td>
<td>Factory Girl</td>
<td>Life Abstainer</td>
<td>Dr. Lee</td>
<td>June 13, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>April 14, 1883</td>
<td>W. O.</td>
<td>M</td>
<td>15</td>
<td>Machinist</td>
<td>Abstainer</td>
<td>Dr. Lee</td>
<td>June 3, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Aug. 4, 1883</td>
<td>A. M.</td>
<td>F</td>
<td>23</td>
<td>Servant</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 22, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Aug. 21, 1883</td>
<td>H. K.</td>
<td>F</td>
<td>22</td>
<td>Servant</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Sept. 4, 1883</td>
<td>Died</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Aug. 22, 1883</td>
<td>L. A.</td>
<td>F</td>
<td>17</td>
<td>Servant</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Oct. 20, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Aug. 33, 1883</td>
<td>H.</td>
<td>M</td>
<td>23</td>
<td>Clerk</td>
<td>Life Abstainer</td>
<td>Dr. Lee</td>
<td>Oct. 10, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Sept. 1, 1883</td>
<td>O.</td>
<td>M</td>
<td>9</td>
<td>Son of a Carman</td>
<td>Non-abstainer</td>
<td>Dr. Edmunds</td>
<td>Oct. 21, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Aug. 28, 1883</td>
<td>S. C.</td>
<td>M</td>
<td>10</td>
<td>Son of a Carman</td>
<td>Life Abstainer</td>
<td>Dr. Lee</td>
<td>Oct. 21, 1833</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Aug. 24, 1883</td>
<td>R. W.</td>
<td>F</td>
<td>15</td>
<td>Servant</td>
<td>Abstainer</td>
<td>Dr. Edmunds</td>
<td>Oct. 3, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Aug. 25, 1883</td>
<td>B. G.</td>
<td>F</td>
<td>18</td>
<td>Teacher</td>
<td>Abstainer</td>
<td>Dr. Edmunds</td>
<td>Oct. 3, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Sept. 2, 1883</td>
<td>D. D.</td>
<td>F</td>
<td>20</td>
<td>Milliner</td>
<td>Abstainer</td>
<td>Dr. Lee</td>
<td>Oct. 27, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Sept. 8, 1883</td>
<td>L. T.</td>
<td>F</td>
<td>14</td>
<td>Daughter of a Porter</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 14, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Sept. 12, 1883</td>
<td>C. V.</td>
<td>M</td>
<td>31</td>
<td>Painter</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 1, 1883</td>
<td>Recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>---------------</td>
<td>--------------------</td>
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<td>-----------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>42</td>
<td>2005</td>
<td>Oct. 22, 1883</td>
<td>E. V.</td>
<td>34</td>
<td>M</td>
<td>Custom House Officer</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 19, 1883</td>
<td>Recovered</td>
<td>Relapsed case. Admitted in a prostrate condition. Patient exhibited marked physical signs of phthisis, but made a good recovery.</td>
</tr>
<tr>
<td>43</td>
<td>2104</td>
<td>Oct. 27, 1883</td>
<td>A. F.</td>
<td>10</td>
<td>F</td>
<td>Daughter of a Railway Checker</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Nov. 7, 1883</td>
<td>Recovered</td>
<td>Mild case.</td>
</tr>
<tr>
<td>46</td>
<td>2036</td>
<td>Nov. 6, 1883</td>
<td>N. A.</td>
<td>24</td>
<td>F</td>
<td>Barmaid</td>
<td>Non-abstainer</td>
<td>Dr. Lee</td>
<td>Dec. 21, 1883</td>
<td>Recovered</td>
<td>Phthisical patient. Profuse and purulent evacuations for upwards of a week.</td>
</tr>
<tr>
<td>51</td>
<td>2094</td>
<td>Dec. 8, 1883</td>
<td>F. C.</td>
<td>21</td>
<td>F</td>
<td>Boot-trade</td>
<td>Non-abstainer</td>
<td>Dr. Edmunds</td>
<td>Dec. 15, 1883</td>
<td>Died</td>
<td>Admitted with a temperature of 106° F. Pulse 124. Complicated double pneumonia. Had miscarriage a week before admission. Died with a temperature of 117° F. Ought not to have been removed from home. Had been ill for upwards of 14 days. Post-mortem examination made.</td>
</tr>
</tbody>
</table>
Alcohol in Hospitals.

Referring to the statistics of St. George's Hospital, Dr. A. T. Myers stated that—

"The main feature of their 281 cases was that 69 had proved fatal, which gave the high-death rate of 24 per cent. There had been no use whatever of cold water or of strong antipyretic drugs; the treatment had been by expectancy and alcohol. The alcohol had been given in large quantities; three-fifths of the patients had had, at some time in their illness, as much as eight ounces of brandy in the day, or more; and nearly a quarter of the whole number of adults and children—had risen gradually to as much as sixteen ounces of brandy in a day; often, however, only for periods of great danger; about 13 per cent. had had no alcohol at all."

While we write, Parliament is occupied with the inconvenience of our public executioner getting rather too drunk to be able to hang our murderers properly. Recent newspapers contain reports of an inquiry instituted by the Bishop into charges of scandalous drunkenness in the rector of an important West London parish. In London drawing-rooms dipsomaniac ladies have become recognised facts. Among West-end domestic servants the drunkenness that exists is notorious. Are these melancholy incidents in any degree traceable to "the inconsiderate prescription of large quantities of alcoholic liquids" at our chief West-end hospitals?

By favour of the authorities of the Temperance Hospital we have been furnished with a summary of all the cases of typhoid fever treated in that hospital, and that summary is given in preceding pages in a tabular form.

It appears that fifty-one cases in all had been admitted during the ten years ending Dec. 31st, 1883: that none of these cases had had any alcohol administered: that six deaths only had occurred: i.e. a mortality of less than twelve per cent.

These statistics of typhoid fever in the metropolitan hospitals bear out the conclusions long since established by the practice of Dr. Gairdner and Dr. Russell, and show that "at those hospitals where the medical officers still use alcohol the most freely, there the death-rates remain the highest." At St. George's Hospital, where the practice advocated by Todd and Skey still prevails as much as if it had never been exploded, we find the highest of all the death-rates, i.e. a mortality of 24 per cent. At the Temperance Hospital, where no alcohol at all has yet been administered, the mortality was less than 12 per cent., and lower than that of any other London Hospital. At such other hospitals as favour the antipyretic treatment by the cold bath, &c., instead of "the ordinary treatment" there we find the mortality correspondingly reduced.

During the period in which the general hospital mortality of typhoid has been so much reduced we see also, as Dr. Hare pointed out, that "the consumption of alcohol diminished so much as to show, in 1882, a most remarkable reduction in the
cost of wines and spirits in all the hospitals except St. George’s.” Surely a case has been made out for such extended experiment in our hospitals as would determine whether the alcohol now prescribed contributes to the death or to the recovery of the patients to whom it is administered. Already we know that, among those who do recover, this routine prescription of alcohol often implants the seed of future drunkenness.

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**Miscellaneous Communications.**

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THE EFFECTS OF THE EXCESSIVE USE OF ALCOHOL ON THE MENTAL FUNCTIONS OF THE BRAIN.*

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The primary object of this lecture will not be to make you become total abstainers, but simply to illustrate by scientific facts and truths the effects of the excessive use of alcohol on the brain. You will understand that I have nothing to do with any use of alcohol which cannot truly be said to be excessive—that is, proveably damaging or dangerous to the mental power of the brain—and I shall confine myself, as far as I can, to the effects of alcohol on the brain so far as its mental functions are to be distinguished from its other functions.

In the first place, in approaching a subject of this kind, we must look at what may be called the physiological effects of alcohol on the mental functions of the brain; we must see what would be the effect on the human brain and the human being, so far as his mind is concerned, of giving him so much alcohol, supposing he had never tasted it before. We shall look first, then, at the effects of small doses of alcohol, and then at the effects of large doses—the immediate effects, I mean, looked at from a purely physiological point of view, apart altogether from any sort of social considerations. Now the brain, as those of you who are medical students know very well, is the organ of the mind. Its convolutions are undoubtedly the most active and important part of it, and a portion of them subserve the mental functions of the organ. Each of these convolutions consists, roughly speaking, of active nerve-tissues and blood-vessels which supply that nerve-tissue with nourishment and potential energy. One of these brain convolutions has the very largest supply of blood of any organ in the body; the convolutions of the brain being supposed to use up about one-fifth of the whole of the blood in the human body. There are certain substances which, when given and absorbed into the blood, act on the tissues themselves, and certain other substances which act on the blood-vessels. Alcohol happens to be one of those substances which act on both, so far as the brain is concerned. It has an especial power over, and an affinity for, the nerves and brain-

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tissues; it has almost at once this other effect, that it dilates the enormous network of blood-vessels which permeate and form a considerable part of the convolution of the brain, so that each capillary expands, and carries more blood than it did before. It is as though you had the water-pipes in your house becoming suddenly larger than their ordinary calibre, and carrying more water to you. The tissue proper becomes excited to enormously greater activity, hence the effect is called "stimulant." The brain-cells exert their forces and energies, in some shape or form, to a larger degree than existed before the dose was given. But we have then to ask wherein the stimulant effect consists? Here we find the greatest variety in different individuals. In a number of cases the stimulant's effect is one that is to the consciousness of the individual a feeling of confusion of mind, a feeling of want of clearness of judgment from the very beginning. I am talking of the effects of only a small dose. When we come to look at the matter carefully, in a large number of cases we find that the stimulant's action is extremely different on different subjects; and this lies at the root of any scientific inquiries into the matter. This is a view of the effects of alcohol to which enough attention has not been directed. In certain individual cases—a few only, I believe—it undoubtedly has the power, in accordance with its stimulating action, of increasing the clearness and the activity of comparing and judging, of "stimulating" the intellectual force. In other cases it increases the affective and emotional faculties to a very large and marked degree. In such cases in which the emotional faculties are excited, the judging and purely intellectual faculties usually become somewhat obfuscated and deficient in clearness. In other cases it excites the propensities and the appetites to a large extent. The imagination is stimulated in some persons, the memory in a few, courage and resolution in many, and the feeling of organic well-being, the \textit{bien \^etre} in very many. But the creative, energising, and initiative power is seldom or never increased to any real extent or in any useful way; and the controlling, the "inhibitory," power of mind is almost never enlarged, but, on the contrary, usually lessened by even such small physiological doses as I am speaking of. It seems as if the physiological effect it has, in partially paralysing the nerves that control the calibre of the blood-vessels in the brain, and the outer branches of the same artery (as manifested in the flush it causes in the face), is accompanied by a paralysis of the highest of all the brain and mental functions, that of control or inhibition.

The variety in the effects of small doses of alcohol on the mental faculties of different brains is thus extreme. It indicates such different qualities and susceptibilities in different brains as regards this agent, that it makes the whole question of the effects of alcohol a most complicated one, not to be explained by a few unqualified assertions. In reply to the question, What are the normal effects of alcohol on the mental forces of the brain? the scientific man must reply, What kind of brain do you mean? And it is only by a careful study of the qualities, the tendencies, and the potentialities of different brains, that we can answer the first question properly. We need to study the mental qualities of the brain at different periods of life, in the two sexes, in different temperaments and constitutions, in different races, in different states of health and vigour, and with reference to the hereditary tendencies of the organ; for all these things influence the effects of one single small dose of alcohol.

So we find, looked at from the point of view of the amount of the doses, the effect is very different. There is, I believe, no other agent known which differs so greatly in different instances in the dose needed to produce the same effect on the mental powers as a dose of alcohol, and herein again we find that there must be the greatest difference in the power of resisting the
effects of alcohol in different brains. Taking the lower animals, this difference is exceedingly small. An ounce of alcohol given to a dozen dogs of the same size will practically have the same effect on them all, but an ounce given to each of a dozen men has not only the most different effects in the mental faculties it stimulates, as we have seen, but in the amount of effect it causes. Some brains are exceedingly sensitive to very small quantities; other brains have the power of resisting or tolerating alcohol in a very wondrous degree, this being an innate quality quite apart from the effect of use and custom. Those differences are so great as to compel us to conclude that there are enormous inherent disparities in human beings in this respect, and this is no doubt one of the very great dangers in the use of alcohol.

So we also find that at the various periods of life ordinary small doses of alcohol have very different effects. In a child the effect is extremely great, in a boy or girl it is also great, but it is not so great in a growing adolescent. In the two sexes also there are considerable differences, the female having less resistive power, her brain being usually much more susceptible to the influence of this agent.

Looking at different races, the difference of effect of the same dose is also extremely great. There are some savage races who are so subject to its influence that a very small dose indeed—half an ounce—will have a greater effect on them than two or three ounces will have on an ordinary European. The psychological—the mental—effects of small doses of alcohol are therefore exceedingly various, and we have not yet discovered the precise qualities of brain which cause these differences. We cannot tell beforehand which brain will be susceptible to its effects and which will not.

Looking at the matter next from the point of view of the effects of a much larger dose, these will be found to be much more uniform. The effect instead of being stimulating is then narcotic, and we have a deadening, a paralyzing, and temporary arrestment of the mental functions of the brain in every individual if a sufficient quantity is taken; but here we find much variety in the way the result is arrived at when carefully studied. In one person we have this paralysis, this deadening, taking place first on the intellectual faculties, in another on the emotional, in another on the propensities, and in another on the power of motion. So much for a physiological view of the effects of single doses of alcohol; let us now turn to the mental effects of alcohol when taken regularly in excessive quantity, as we physicians see them in our patients. I shall divide them into certain headings.

1. We see a certain kind of mental degeneration of a slight type, which results in those who habitually take an amount of alcohol that is too excessive. This slow but quite marked type of mental degeneration a doctor of experience soon comes to observe in his patients, and in his acquaintance—sometimes—a certain change, mentally, morally, and bodily in the man who is taking more than is good for him. The expression of his face and eyes—these mirrors of the mind—you see is changed, and for the worse. The mental condition of the man is lowered all round, and especially you notice one effect, that his higher power of control, his "self-control" is lessened. I am safe in saying that no man indulges for ten years in more alcohol than is really good for him without this kind of degeneration being observed, and that although during these ten years he was never once drunk. We find him psychologically changed for the worse in his independence of mind, in his spontaneity. After a man has passed forty, such changes are very apt to be faster and more decided; we see such a man's work and his fortune suffering, but we dare not call him either a drunkard or dissipated, because as a matter of fact he has never been drunk, and never intends to be drunk. Whether this degeneration takes place soon or late depends upon the inherent resistive capacities
of his brain-cells. In some individuals the resistive capacity against alcohol is so great that for years and years they may indulge in its excessive use without this degeneration taking place to any great extent, but in other instances we have it very rapidly developed indeed. Some men pass into a premature old age, and become old at fifty or even sixty, when they ought to have lived on and been young men up to sixty, and this merely owing to the excessive use of alcohol. The memory and the power of thinking are affected, but you see the lowering most in the finer faculties, the tastes, the more delicate perceptions of things, and the "force of character." This is an effect which, I believe, is especially to be observed in men who use their intellectual powers constantly and vigorously. I think we often see this effect on the brains of men in our own profession of medicine, at the bar, and even among the clerical profession, in a very marked degree, without their owners having been once drunk. In such persons, their mental powers having been greater to begin with, and with a finer edge on them, you notice in a more marked way this degeneration in its progress. This I may put down as the least marked mental effect of alcohol taken, not so as to produce drunkenness, but taken in greater quantity than the physical constitution of the brain can stand, over a long period. In some brains a very small quantity indeed taken daily will produce this degeneration.

2. I shall class the second psychological effect of the use of alcohol under the head of a weakening of the power of self-control. Our medical term "loss of inhibition" expresses what I mean. Inhibition means simply that control which certain parts of the brain and nervous system have over other parts, and the effect of the excessive use of alcohol is in certain cases very markedly to paralyse and weaken the higher "inhibitory centres." This is seen in a simple way in the blood-vessels. The nerves of inhibition for those vessels being paralysed, you have them becoming abnormally large. The result of the paralysis of those inhibitory parts of the brain is that everything we understand by self-control and by morality is paralysed and lost. Coming under this head you have not only the lack of control, but a very intense craving and desire for the stimulant set up, and when you have such lack of control and intense craving for stimulants, the result is a condition which in its extreme degree has been called "dipsomania," a kind of uncontrollable craving for alcoholic drinks. No medical man who has been long in practice will deny for a moment that there are persons whose cravings for alcohol have become absolutely uncontrollable. Particularly the morbid craving is seen in young persons of nervous ancestry where the excessive use of alcohol has become a habit early in life, and where by this means the natural powers of control have not been allowed to develop themselves. This craving is so intense that it is a common experience for physicians to find that men in seeking to gratify it will have no regard to their wealth, their health, their honour, their wives, their children, or their soul's salvation.

Certain causes predispose to this kind of uncontrollable craving. These are, (1) heredity to drunkenness, to insanity, or to nervous diseases; (2) excessive use of alcohol, particularly in childhood and youth; (3) a highly nervous diathesis and disposition combined with weak nutritive energy; (4) slight mental weakness congenitally, not amounting to congenital imbecility, and affecting the volitional and resistive faculties; (5) injuries to the head, gross diseases of the brain, and sunstroke; (6) great bodily weakness and bloodlessness, particularly during convalescence from exhausting diseases; (7) the nervous disturbances incidental to the female sex and to motherhood, and the climacteric period; (8) particularly exciting or exhausting employments, bad hygienic conditions, bad air, working in unventilated shops, mines, &c.; (9) the want of those normal and physiological brain stimuli that are demanded by almost all brains, such as amuse-
ments, social intercourse, and family life; (10) a want of educational
development of the faculty and power of self-control in childhood and youth;
(11) the occasion of the recurrences in alternating insanity, or the begin-
nning of ordinary insanity, being co-
incident in a few of these cases with
the periods of depression, but mostly
with the beginning of the periods of
exaltation; (12) the brain weakness
resulting from senile degeneration.
More than one of these causes may,
and often do, exist in the same case.

The stimulant craving is associated
with impulses or weaknesses of con-
tral in other directions, in by far the
majority of the cases. All the facul-
ties and powers that we call moral are
gone, at all events for the time that
the craving is on. The patients lie;
they have no sense of self-respect or
honour; they are mean and fawning;
they cannot resist temptation in any
form; they are immoral, especially
at the beginning of an attack; they
will steal; the affection for those
formerly dearest is suspended; they
have no resolution and no rudiments
of conscience in any direction. The
excessive use for a long period of
nerve stimuli of all kinds is to dimi-
nish the controlling power of the brain
in all directions, and to lower its
highest qualities and finest points.
The brain tissue is so fine, so delicate,
and so subtile-working, its functions
are so inconceivably varied and so
high, that under the most favourable
circumstances it runs many risks of
disturbances of its higher functions.
But when we have a bad heredity, a
bad education, and a continuous
poisoning with any substance that
disturbs its circulation and paralyses
its blood-vessels, that excites morbidly
its cells, thickens its delicate mem-
branes, and poisons its pure embed-
ding fluid, we cannot wonder that its
functions become impaired, and that
they are not fully or readily resumed
in all things. The unfortunate pecu-
larity is, that while we may restore
the bodily and even the nervous tone
so far as muscularity, sleep, and sen-
sory functions are concerned, we have
the utmost difficulty in restoring the
higher functions of self-control and
morals in some cases. A dipsomaniac
when at his worst is readily recognised
as so really insane as to be in a fit
state to be placed under the control
of others for proper treatment. When
he is at his best—after a few weeks
compulsory deprivation of his brain-
poison—he is so like the rest of the
world in all essential things, that it is
most difficult to see how laws can be
framed in the present state of pub-
licity and medico-psychological
knowledge to deprive him of his
liberty. He therefore drinks himself
to death or becomes demented.

I shall describe a typical dipso-
maniac, A. B. He came of a very
nervous family, with a good deal of
drunkenness in it. He was of a
nervous temperament from the begin-
ning; a flesh-eater from a child;
precocious and quick, but not dogged
in application; vain to an almost
morbid extent, and in some points
not endowed with common sense.
About seventeen he showed keen
social instincts, but no realisation of
the seriousness of life. He studied
and took a first prize in one class in
his first year, never after. Being a
"jolly fellow," and mixing with such,
he took alcoholic stimulants of all
kinds very freely, and showed a very
great fondness for them. He occa-
sonally got drunk. About twenty he
was addicted to bouts of drinking and
general immorality which came on
periodically, and seemed to pass off
and leave him fit for his work. He
was ashamed of them afterwards, and
I believe very often by his volition
and self-control did not at this time
indulge in them even when he craved
them. At twenty-two he was very
distinctly worse. He had less power
of applying himself to anything. He
took almost regularly recurring perio-
dic bouts of drinking, during which
the craving for drink was intense and
quite irresistible. I have known him
drink turpentine, eau-de-Cologne, and
chloroform when he could not get
alcohol. He was nervous, tremulous,
and unable for any kind of work while
the fit lasted. He would lie, cheat,
steal, and associate with the lowest
characters at those times. When he recovered he was facile, lacking in conscientiousness, and somewhat unveracious, though a charming companion. All sorts of things were tried—long sea voyages, a colony, isolation in a doctor’s family—but no permanent improvement was produced. He sank lower and lower mentally and morally, till at thirty he was really weak-minded and unfit for respectable people to associate with, and unable to do work of any kind. Not an atom of self-respect was left in him. He is now, at forty, almost in a state of imbecility. I have only known two such bad cases who recovered. Treatment is usually begun too late. There is no doubt that the craving for alcohol and the lack of control over its effects is transmitted from generation to generation. This predisposition is one of the potent and most frequent causes of such an uncontrollable craving.

I could tell you, did not time pass, the saddest stories of many such young men, some of whom were fellow-students of my own, and of others about whom I have been consulted, men far above the average intellectually, but who, through the excessive use of alcohol, though a use, in fact, which to other men might not have been excessive, but which was so to them, have fallen into the condition I have described.

Many crimes come under this heading of diminished self-control through alcohol—crimes which are often so caused in persons not of the criminal classes.

3. The next result of the continuous excessive use of alcohol is what we technically call Alcoholism, the most marked symptoms, of which in most cases are mental symptoms. This not being a medical lecture, I need not go into details, but alcoholism takes two forms—the acute and the chronic. The acute is that form which we all know as delirium tremens—a condition where there is delirium with hallucinations of the senses of hearing and sight, especially of sight, a wild, constant, restless motion; an inability to sleep, to eat, or to rest; a terrible depression; a fearful terror of unreal objects; and a considerable risk to life. During its continuance a man needs to be controlled by others, and is absolutely unable to manage himself or his affairs, of which he becomes ill as in a fever, and from which he recovers, as from a fever, under proper treatment. Chronic alcoholism is, on the whole, not so extreme a thing, but it also consists of a mental aberration, an affection of the judgment, of the memory, of the self-control, which runs a slower course, and is accompanied by certain symptoms of tremulousness and paralysis. It is not so violent a disease as the acute alcoholism, but it is much more apt to leave bad effects behind it. When a man has gone through any of these attacks, and—as is mostly the case—does not take a lesson from the first experience, each new attack leaves the brain in a worse condition all round than the previous one; and if a man who has had a great number of attacks persist in drinking to excess, he commonly either becomes insane in the ordinary sense, or loses his memory and power of working, or becomes imbecile, or prematurely old. Attacks of alcoholism are “brainstorms,” and by repeated storms you have the result that the whole brain tissue is affected by change for the worse more or less. In extreme cases you have the result that this tissue, through which all the mental operations take place, loses its normal power of energising, and then the condition of imbecility or mental weakness to which I have referred must ensue.

4. The fourth result of the excessive continuous use of alcohol is one of which I, unfortunately, in my capacity as the physician of the largest asylum for the insane in Scotland, have many opportunities of witnessing. It is the production of absolute insanity. Now, we know as a statistical fact that from fifteen to twenty per cent. of the actual insanity of the country is produced by the excessive use of alcohol. In that case, as we have about one person to every three hundred in the population insane, it follows that one
person in every two thousand of our people, counting men, women, and children, become insane, and deprived of their reason, of their power of action, of their power of enjoyment, and of their personal liberty, from this cause. This makes about 77,500 persons at any one given time in the British Empire who are so incapacitated by reason of mental alienation, produced through the excessive and continuous use of alcohol. These people are as good as dead while they are insane; they do no work for the world or in the world, and all that makes life worth having to them they are deprived of. In these cases you have got to the acme of the bad effects of alcohol on the mental functions of the brain; you have arrived, as it were, at the worst that alcohol can do to a man's mental functions, and you will all admit, that it is a bad enough result, and it occurs in the large number of cases I have mentioned.

But you must remember that these numbers are merely of those so well known as to be available for statistics, merely the registered persons who have been so ill as to have been sent to asylums through the excessive use of alcohol. For every one of these who had become really insane, there are no doubt a large number who have become partially affected in mind, but not to such an extent as that it has been necessary to deprive them of their liberty, but who, nevertheless, are affected in mind through the excessive use of alcohol to some extent, and who are many of them partially insane.

When we look at the alcoholic insanities we find that they have certain special characteristics. They are, without going into details, characterised especially by great violence and difficulty of management. They are characterised by a very great tendency to self-destruction, especially in the early stages. I think myself that out of the 7,600 suicides that take place every year in England, probably one half, 800 or 900, are owing to alcoholic insanity and alcoholism in their early stages before they have developed so far that the patient is looked after. This terrible effect of a man taking away his own life is caused, therefore, in a larger number of instances by alcoholic excess than by any other known cause.

This alcoholic insanity in its first attacks is a curable malady if put under proper treatment, and one of the first modes of treatment of that and of dipsomania we adopt nowadays is always to deprive the patient of the alcohol which has been the cause of his malady. That we do remorselessly and at once, because we find it to be the best thing for the patient. In old times the medical profession used to adopt a process which was called "tapering-off." But we have found this process to be a bad one, that a short and sharp remedy is the best in the long run, and the results are much better as regards cures, and as regards a diminution of the number of deaths that take place.

Unfortunately, most men who have addicted themselves to the excessive use of alcohol will not, even after they have brought on themselves these terrible diseases of alcoholism and mental alienation, take a lesson; but when they recover we find that the tendency is to go back to their stimulant, and then they need to go back again to the asylum or the hospital suffering from the same diseases, and from the result of their own want of control. One very sad result, to which I shall refer again, is that the excessive use of alcohol has this fatal power—if a man has, unfortunately, in his brain, through hereditary transmission from his ancestry, a tendency to mental disease—it will often, even in small quantities, bring out this hereditary weakness. A man who might have lived out his time mentally, when he takes alcohol to excess, the weakness in his brain, which had been a mere potentiality, becomes an actuality, and he then becomes insane who might never have been so. Alcohol has the effect of bringing out many other brain weaknesses besides insanity that without it might have lain dormant.
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5. I pass now to the fifth and the last of the effects of which I wish to speak. It is that of family and race degeneration. A great French physician in the middle of the present century named Morel, of a philosophical turn of mind, a man who looked at human nature from a large point of view as well as from the point of view of a physician, went into an extremely elaborate scientific investigation into what he called "human degeneracy." He dealt with the degenerations that are constantly taking place in families, in nations, and in races, through the lowering of the body and of the mind, and the tendency to fall into various diseases; the sinking-down process, the process which is taking place, unfortunately, in our civilised and especially in our city communities to a large extent, through our conditions of life; the sort of degeneracies that fill our asylums, gaols, and poorhouses, as well as the slums of our large cities; that create the people who cannot help themselves—those weak, nerveless, evil-disposed, characterless beings, with no power of action, no power of keeping themselves right, no desire to be better or higher, the sort of people of which we are hearing so much now.

Morel, in going in a scientific way into the causes of these degenerations, discovered that there were a great many causes for them. As the result of his exhaustive inquiries, embodied in the great book he wrote on the subject, he concluded that the causes were bad houses, bad foods, unfavourable conditions of life, the use of some poisons, the excessive use of tobacco, and the excessive use of opium. These all tended to produce a continual process of lowering. He also came to the conclusion that the excessive use of alcohol is the greatest single factor in human degeneracy that is yet known. He discovered that its influence was more potent in the lowering both of the purely intellectual condition of the race and of its moral condition, as well as the physique and the muscular strength, conditions that increase in each succeeding generation. In fact, it is opposed to all the qualities that constitute a great and enduring people. This is especially the case in large cities if combined with other unfavourable conditions, an actual race degeneration being then rapidly produced.

This is, as all publicists and socialists know, one of the great questions of our civilisation: How can we raise the race, prevent it from being lowered, make every man a better man, make his sons and daughters better men and women, not in a religious or moral sense merely, but in an extensively human point of view, looking at man as a whole, body and mind, making him bigger, stronger, better thinking, better feeling, longer lived?

We all know that the use of alcohol in almost any quantity to certain races is absolutely fatal. Taking many of the North American Indian tribes, there is no doubt that they were a fine race physically, and had many fine mental and moral qualities, and yet when they came into contact with civilisation they had no power against the use of alcohol. It is a sad fact that in some tribes where there were no proper precautions the whole of them became drunkards—every mother's son of them taking to drink, and becoming such dippers of the not one of them had the slightest power of controlling himself. If a glass of drink was to be got for love or money, he would sell his last blanket to get it. He lost all the finest of his savage instincts thereby; he lost his courage, his endurance, his very savage intensity of hatred and revenge, until the last of his race died a miserable drunkard.

I shall conclude by pointing out that certain things, as we doctors say, "contra-indicate" the use of alcohol, or at all events the liberal use of it; and I believe that if such things exist and a man knows it, if he is a wise man, he will be very temperate or abstain altogether. If he is going to live out the life he ought to live, if he is going to do the best for himself that is possible, he had better take as little alcohol as may be, and on no account acquire a taste for it.

The first of these dangers is a
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drunken ancestry. Now, we Scotchmen have a great many good qualities, but, unfortunately, many of us have had a drunken ancestry, and there is no doubt that where that has existed a man had better be exceedingly careful in the use he makes of alcoholic stimulants, and probably he would be much safer if he did not use them at all, even in the smallest degree. There may be something in his blood or brain that only needs a little alcohol to light it up into a disease or a demon that will shorten his life and wreck his hopes.

Secondly, persons who have, unfortunately, a very nervous constitution themselves, or a nervous ancestry, who have the taint of nervousness or insanity to any great extent in their families, had much better avoid the habitual use of alcohol. It is undoubtedly one of the most dangerous agents for bringing out, as I said, potentialities which might otherwise have remained latent, that a man so circumstanced can use. I believe persons of an excitable, sensitive, or imaginative temperament are especially prone to fall victims to alcoholic excess.

Those persons who have had severe injuries to the head are notoriously susceptible to the bad effects of alcohol. It is an extremely common experience for medical men to have patients who, when quite well, can take a moderate amount of alcohol, but who, after receiving an injury to their heads, cannot safely touch it. Most fortunately for us, our brains, if normal and healthy, can usually resist, and do resist very strongly, the effects of alcohol when we use more of it than is good for us. Nature provides us with the power of getting over the effects of single doses. I may mention that it is a much more dangerous thing for most men to take alcohol in quantities that are a little above the mark than is quite safe,—it is much more dangerous to go on doing this year after year, than to have a big outburst occasionally. The one is much more damaging to the brain than the other. Nature does make provision against occasional excesses in all directions, so long as they are not often repeated, but she makes no provision against a continuous soaking. The brain must give way sooner or later under that.

Some people who have had severe diseases and inflammations of the brain cannot, after having these diseases, use alcohol safely; and under this category comes most attacks of ordinary insanity—insanity not produced originally by alcohol at all.

There is no doubt as to the influence of sex as a danger in the use of alcohol. The female is much more susceptible than the male sex, and should be much more careful in the use of it either as diet or drug.

And, lastly, the early periods of life contra-indicate in most instances the use of alcohol. I think that any sound physiologist, and most experienced physicians, would say that alcohol should never be used habitually till up to the period of full manhood. It should undoubtedly never be given in childhood except by the doctor; in boyhood and girlhood it should also never be given as diet; and I believe that during the period of adolescence, of growth and development, until the bones are set and knit, the constitution formed and the beard grown, the less alcohol taken the better.

Under all these conditions I have mentioned, the difficulty is great to say what is excess and what is moderate use. Moderate use under these conditions tends to become excess so soon, that we find it the part of wisdom very often to advise that no alcohol at all should be taken.

To conclude—looking at the university student, taking into account the period of life at which you study, the work you have to do, the unfavourable conditions of life in which you have to live from a physiological point of view (there is no physiologist who will for a moment pretend that sitting in a stuffy class-room for four or five hours a day is in itself a good thing for a young man), taking the long cold period of our Scotch dark winters, when we cannot get enough out-door exercise; taking the fact that neither you nor I know the weak points of
our constitutions as derived from our ancestry—taking all these things into consideration, I think that a student will have little reason to blame himself who totally abstains from alcohol during his period of study. You will all admit that a man who does so avoids certain manifest risks; most of you will admit that he will do more work; you will all admit that he does not lose very much of the best kind of social enjoyment during his period of study; you will all admit that after his studies are over, and when he has developed into full manhood he will be likely to enjoy it all the better, as well as more safely, if he takes to the moderate use of alcohol. After that some of the risks are over. And if he should remain a total abstainer all his life, it may not be the worst thing he can do. I am not here suggesting to you what I did not practise myself, for during four years of my studies I was a total abstainer, and it was a course I never have had any reason to regret.

ALCOHOLIC POISONING.

At a meeting of the Royal Medical and Chirurgical Society, held on Tuesday, 13th Feb.; John Marshall, F.R.S., President, in the chair, Dr. W. H. Broadbent read a paper on "Alcoholic Poisoning," of which the following is an abstract:—

"A case occurring in a gentleman, aged forty-two, was related. He had developed a liking for wine in early manhood, and had gradually become inert and sedentary, spending most of his time in bed, reading and drinking port. In 1875, he was placed under the care of Dr. Harrison, of Shepherd's Bush Green, as a dipsomaniac. He never had pronounced delirium tremens, but had been wakeful and nervous, and for some months before his final illness had been falling in mental power. The paralysis came on very insidiously; the arms had been noticed to be weak for a fortnight, but there had been no great interference with the use of his hands in holding his paper or conveying drink to the mouth till within a few days of the first consultation between Dr. Harrison and himself on April 3rd, 1883. At this time the paralysis was chiefly manifest in the extensor muscles of the forearms, giving rise to double drop-wrist, but the flexors were also weak, and the muscles of the trunk were enfeebled, and although all movements of the legs were freely effected in bed, he could not stand alone. The knee-jerk was lost, the sole reflex marked. Sensation was unimpaired, the sphincters were not affected. A special peculiarity was the pale, purplish, condition of the hands, while the feet, when hanging down, could be seen to swell. The urine contained neither albumen nor sugar. The pulse was frequent, and small and weak, but regular. The first sound of the heart short, and followed immediately by the second, at too brief an interval; there was no valvular murmur. A week later the paralysis had so far increased that the hands lying alongside the body could not be placed upon it, and the legs could not be drawn up in bed. There was also obvious paralysis of the diaphragm, which soon gave rise to respiratory distress and to difficulty of speaking. Next day the lower ribs, which had previously expanded well, only moved upwards with inspiration, and death took place from asphyxia on the 11th. On post-mortem examination of the cord (which was all that was permitted) it was found to be remarkably pale, but its consistence was normal, and no change could be found on microscopical examination, which was carefully made by Mr. Silcock. Other cases, essentially similar, had been seen by himself, with the late Dr.
Rhodes, of Weymouth, in a lady, aged about fifty; with Dr. Myrth, of Harrogate, in a lady aged about thirty; with Mr. G. Amos Duke, in the wife of an innkeeper; in a deserted mistress in St. Mary’s Hospital; and in a gentleman, aged thirty-nine, with Mr. Wheeler, of Chiswick. In another case, seen with Dr. Morton, the later symptoms did not altogether correspond with those described. In all alcohol had been taken in unusual excess, and he considered himself justified in considering it as the cause.

Most of the patients were females of sedentary mode of life, and the case described was in a gentleman who scarcely ever went out, and spent most of his time in bed. It was thought probable that the absence of exercise was the determining cause of the alcohol affecting the cord. The disease most resembled acute ascending spinal paralysis, differing chiefly in the order in which the different parts of the cord were attacked, the double wrist-drop at an early period being highly characteristic.”

Dr. Wilks said the subject was one which had long interested him. The effects of alcohol on the nervous system were ill understood at present; he was glad that so able an authority as Dr. Broadbent had taken it up. It was curious how some persons were more liable to suffer than others, and how, also, some organs were more susceptible than others. For instance, a person went on for a while taking alcohol without noticeable effect, then he got dropsy, and his liver became affected; while in another case it was the brain which seemed to suffer. It was curious, also, to note that women were more frequently affected than men. In the brains of those dying with delirium tremens, no structural changes were appreciable, although the membranes were found thickened. This disease is more common than the author of the paper seemed to think. He (Dr. Wilks) was constantly meeting with cases; it was remarkable, however, how they recovered from the disease, if patients would only leave off their alcohol; recovery, indeed, occurs even in the severe cases, with perseverance in treatment; this was proof positive that there could be no structural changes. Alcohol was supposed to give rise to fibroid changes in the nerve centres; but he had seen cases recover completely, notwithstanding, provided the cause were removed. A year’s rest in bed, with electricity, might be required; hence he thought there was no hard and fast pathology. Were Dr. Broadbent’s cases typical? If alcohol had any specific effect, the symptoms, he imagined, would necessarily vary with the part chiefly affected. In the myelitis of syphilis the symptoms varied in this way, and why should they not do so in alcoholic disease, if alcohol really gave rise to any specific morbid change?

Dr. Buzzard said the fact that the disease was not a new one in no way detracted from its interest. With characteristic modesty, Dr. Wilks had not referred to his own writings on the subject, published some twelve years ago. He agreed with Dr. Wilks that, although there were general resemblances in the cases, there were nevertheless differences. Contractions did occur, and sometimes persist, yet the muscular paralyses might occur without them. In his own experience, lancinating pains were not uncommon. In some cases also hyperalgesia was so marked that the patients could hardly bear the weight of the bed-clothes. He had found that the muscles reacted less well than normal to the constant current, but with exaggeration to the interrupted current; this showed the lesion to be in the spinal cord, and resembled what existed in lead-poisoning. Although no pathological lesions could be discovered in the spinal cord, yet atrophic changes had been found in the nerve-trunks, such as were sometimes found on the trunks after injury to the multipolar cells in the anterior horns. Two or three years ago Dr. de Watteville had suggested that a dynamic change in the cord was the probable cause, a temporary arrest of function; the cord being a trophic centre, atrophic changes in the nerve-trunks proceeding from it were brought about.
PHYSICAL ENDURANCE UNDER TOTAL ABstinence.

NEVER, in the history of the Temperance movement, has the value of abstinence from alcoholic and other artificial aids been so signally demonstrated as during the past four months, when, without any preliminary training, the pedestrian Weston has, for one hundred successive days (excluding Sundays and Christmas Day) walked fifty miles a day, until, on Saturday evening last, he completed the number —5,000—which he had undertaken to accomplish in the time specified. Feats of strength and skill have indeed been performed by abstainers and others—feats requiring great force of muscle and steadiness of nerve—some, too, involving great powers of endurance; but all pale into absolute insignificance by the side of the splendid effort just brought to so triumphant a termination. The ancients were wont to point to the pyramids of Egypt, the Ephesian temple of Diana, the mausoleum of Artemisia, the walls and hanging gardens of Babylon, the Colossus at Rhodes, the watch-tower at Alexandria, and the statue of Jupiter Olympus, as the seven wonders of the world; and surely we, in our day, may offer to those who talk of the physical degeneracy of the human race this unique example of the contrary—an example worthy to be chronicled as an additional “world wonder.”

The accomplishment of Weston’s undertaking has proved to what capacity for sustained endurance the human frame, allowed by temperance in all things, and by abstinence from alcohol in particular, to attain its maximum of development, may be brought. It is not as if, according to the capability of the hour, seventy or any other number of miles were covered in one day and the remainder in another, but the steady effort of walking just fifty miles a day, accomplished with the...
regularity as it were of clock-work, that is so remarkable.

Fair weather or foul, in sunshine or rain, in tempest or in calm, under every possible form of sky in our ever-varying climate, morning after morning, Weston sallied forth, accompanied by an officer of the Royal Navy and a representative of the press, both mounted on bicycles, and completed his fifty miles (sometimes more, but never less), now on the public road and now in a prepared enclosure, and, at the close of each day's work, delivered, with unabated energy, an address of twenty minutes' duration on temperance!

During the final week, when the walking took place in London, at the Victoria Coffee Palace, a complete and exhaustive series of observations were made by Dr. Edwin C. Green, a very promising young medical officer, who has just been appointed house-surgeon to the Derby Infirmary, delegated by the Medical Temperance Association for that purpose. The sphygmograph, clinical thermometer, dynamometer, and spirometer were all made to contribute their valuable revelations. The food and excreta were weighed, as was Weston himself—his height being taken before and after each day's walk. The urine, in view to the amount of urea, phosphates, &c., being estimated, was sent daily to that accomplished analyst, Mr. A. Wynter Blyth. The results will be published in detail in due course; but it may here be stated that they were in the main eminently satisfactory. The vital capacity was not, perhaps, quite so great as we were prepared for, and the grip—a matter of little moment, however, in such an undertaking—was what might have been expected from the pedestrian's comparatively slight physique. But the clinical thermometer and the sphygmograph proclaimed that the temperature and the pulse—both unerring indicators of abnormal states of health—were perfectly natural; indeed, the tracings with the former—one of Dudgeon's beautiful little instruments—were typical of the most perfect health. Weston's average rate of walking was over four miles an hour; but he usually raised the figure to six when finishing his final mile for the day. His 4,099th mile was completed in gallant style, amidst the vociferous cheers of the crowd of sympathising spectators, in minutes and 17 seconds, or at the rate of about 670 miles an hour. When the pedestrian set out on his tour from the Palace Chambers, Bridge Street, Westminster, on the 21st November last, at midnight, he was suffering from a severe cold, and was strongly advised to wait till he was well; but he determined to make the start on the day that had been fixed, feeling confident that if he could tide over the first week and month all would be well, a confidence which has been abundantly justified, for, as a matter of fact, Weston improved in health and condition as he drew towards the conclusion of his tour; and, so thoroughly fit did he evidently feel on its completion, that he stated his readiness to walk on the following Monday to Brighton and back—a distance of 106 miles—without a rest, if some generous philanthropist would give £100 to the Police Orphanage.

The feat, as we have said, is a great victory for the apostles of total abstinence from alcohol, although it would be absurd to contend that because Weston accomplished this extraordinary feat, anyone could do it. As Dr. Richardson and Dr. Norman Kerr truly remarked in their speeches on Saturday, a man may daily take so small an amount in, say, some light beer, as to practically be of no effect one way or the other; but when he resorts to it as a promoter of strength or sustained physical effort, and takes a quantity such as he believes is necessary for that purpose, it is then that he will discover his error. Herein lies the value of the present enterprising undertaking.

(From the Lancet, March 22.)

Whatever inferences we draw or refuse to draw from Mr. Weston's walk, it remains one of the most surprising feats that was ever performed by man. Under any circumstances,
Physical Endurance under Total Abstinence.

even if exceptionally favourable, to have walked fifty miles a day consecutively for a fortnight would have been a creditable accomplishment. But to walk fifty miles a day for 100 days, in all states of the weather, of the muscles, and of the mind, and to appear at the end of it as Mr. Weston did last Saturday night, was a great achievement. It has always been a feature of Mr. Weston’s powers to be slow to become exhausted and to admit of very rapid recuperation. Most men who were rash enough to attempt such an undertaking, and fortunate enough to survive it, would do so in a state of bruise and dilapidation, dragging one leg after the other. But Mr. Weston was rather like a man setting out on a summer’s morning than one finishing such a walk, and actually did the last mile but one in 9 mins. 17 secs., and a few minutes after the conclusion of his task delivered a speech that would have been a day’s work to some men. In less than forty-eight hours he appeared at our office in perfect health and with a quiet pulse, more like that of one returning from a holiday than from a prodigious task. The mere distance walked in the time gives a very inadequate idea of Mr. Weston’s power. He started with a bad cold, and he soon got a sore on the foot, which involved extreme pain and did not heal till half his journey was accomplished. Add to these the elements of mental worry and anxiety, and we have three conditions that would have disabled almost any man but Weston. All this was achieved on a simple diet, without any alcohol, save as an external application to the feet. The absence of alcohol was certainly a very interesting feature of the experiment, and one that our teetotal friends may be excused for making much of. Dr. Moxon’s view of the use of alcohol—viz., as a thaumaturgical agent to enable a man to do his best or to exceed himself—finds no countenance in this case. If anybody believes that Mr. Weston could have accomplished the work—to say nothing of accomplishing it better—with any material quantity of alcohol, it is not Mr. Weston himself, who in all his great walks has abstained totally. Men who cultivate physical health and strength may well consider the significance of Mr. Weston not only going through such a walk, but going through it so well, and with such an equilibrium of function at the end. And if they do not reach the extreme teetotal conclusion, they will at any rate admit that a splendid physical achievement has been wrought without alcohol. Most men, in the same way, will do their best work best without alcohol. Not that teetotalism will enable any man to do what Weston has done, which is essentially a personal feat. It is easy to be illogical and to exaggerate in this matter. We should fall into these errors if we said that teetotalism enabled Weston to do what he has done. It is enough to say that under teetotal conditions he did it with the least possible harm to his bodily functions; and that, after all his past achievements, he is, at forty-five, a sound and healthy man, capable, apparently, if need were, of repeating them all.

(From the British Medical Journal, March 22.)

The feat thus successfully accomplished is unique. Endowed with no remarkable muscular power, Weston has owed his success in great part to the mode of living he adopted, the chief feature of which was total abstinence from all intoxicating drinks. Whatever may be attempted and executed in future, this remarkable and original experiment has demonstrated that a resort to intoxicating stimulants is not essential to the accomplishment of severe and long-continued bodily exertion. We recognise, with peculiar pleasure, the constant support which Weston has received, during his performance, from the medical profession.
BRANDY AND SUDDEN ILLNESS.

Some of those who advocated the granting of a spirit license to the keeper of the refreshment rooms at Roundhay Park, Leeds, having argued that brandy was necessary in cases of sudden illness, Dr. H. Arthur Allbutt sent a letter to the local papers, in which he said:—

"It has been argued, with a certain amount of plausibility, that it has not been wise to take away the license for the sale of intoxicants from the Park Hotel, because, forsooth, brandy may occasionally be required in cases of sudden illness occurring in the park. Now, sir, if you will give me a very small portion of space in your valuable paper I will dispose of this specious and dangerous argument in a few words. What are the cases of illness which in popular opinion require the administration of brandy, and which are most likely to suddenly occur when the sufferers are some distance from home or medical advice? They are the following:—Apoplexy, epileptic fits, bleeding from ruptured lung blood-vessel, and syncope or fainting. Taking them in order, I may remark that in each of these cases brandy or other alcoholic preparation is highly dangerous—in apoplexy, because, a blood-vessel having ruptured in the brain, blood is being poured out upon or in the brain, causing pressure, and consequently the apoplectic fit. Nature endeavours to repair the mischief in her own way by sealing up the rupture in the vessel by means of a plug of coagulated blood. Now, suppose some brandy is administered, the heart is made to beat faster, blood is sent quicker and with more force to the blood-vessels of the brain, the plug of coagulum is forced out, more blood is pumped out upon the surface of the brain, and the patient either dies without recovering consciousness, or only recovers partially, remaining paralysed on one side for life.

"Epileptic fits frequently depend upon a condition of engorgement or fulness of the blood-vessels of the spinal cord. Alcohol, by increasing the heart's action, sends more blood to the already engorged vessels—it also acts specially upon the nerves which control the size or calibre of the blood-vessels. The alcohol paralyses such nerves (vaso-motor nerves), consequently the blood-vessels, not being kept under control as regards size, expand and admit more blood—which blood, owing to the diminished contractile force of the blood-vessels, becomes sluggish in the vessels, causing a condition of greater engorgement than previously existed. Hence brandy is the worst remedy in epilepsy.

"In bleeding from the lungs the same argument holds good as in apoplexy. Nature endeavours to plug the ruptured vessel with a clot of blood. Alcohol displaces this clot by causing the heart to send more blood with more force to the blood-vessels of the lungs.

"Syncope, or fainting, may depend upon a variety of causes. In elderly persons it is often associated with a fatty condition of the muscular tissue of the heart and coats of the blood-vessels. Alcohol administered often causes a rupture of some softened vessel, or a tearing of some of the soft fatty tissue of the diseased heart. Syncope may also arise from excess of heat (sun-stroke) or from severe cold. If from the former the already engorged blood-vessels of the brain are still further engorged by the administration of alcohol. If from the latter (cold), alcohol, by lowering the temperature of the body (as can be proved by the thermometer), makes recovery far more tedious and difficult, if it does not even turn the scale towards death. Syncope from hysteria, excitement, &c., requires no alcohol, as the subjects attacked can be quickly restored by throwing a little cold water over the face and chest.

"It is sincerely to be trusted that no one will be carried away by any pseudo-medical arguments advanced at the town's meeting on Monday—
arguments brought forward in the publican interest to make persons vote in favour of the Roundhay Park license. It is my fervent hope that all lovers of morality, order, and temperance; all who have at heart the good of the town and of visitors to the town, will by an overwhelming majority confirm the decision of the Council, a decision which, if not reversed, will reflect lasting glory and honour upon them."


QUARTERLY MEETING.

The quarterly meeting of this Association was held on Friday, February 29th, at the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, Dr. Richardson, F.R.S., the president in the chair.

NON-ALCOHOLIC TINCTURES.

Dr. J. James Ridge, who exhibited a number of tinctures, said: They are all prepared by Southall Bros. & Barclay, of Birmingham. These are prepared without alcohol, and have the full strength of the various drugs which they contain. By dissolving the ordinary tinctures, and then re-dissolving extracts in these through the menstruum, the material which has been left behind has been found to be inert, showing that the active principles of these particular tinctures are taken up in a very satisfactory manner by the menstruum. Of course their price is cheaper, and the advantage in using them is that we are not likely to disturb the patients’ equilibrium in any way by administering alcohol when it is not required. If two or three drams of a tincture are given, we produce a very sensible effect, and it is an advantage to be able to prescribe the drugs without alcohol. The dose would be the same as the ordinary tinctures.

In answer to a question, Dr. Ridge said that the tinctures would keep clear any time. He had kept them for months, and not one of them had turned.

WESTON’S WALK.

Dr. Norman Kerr referred to the walk of Mr. Weston of 5,000 miles, and said that Mr. Weston had already completed 4,200, and was going to walk the last eight days at the Victoria Coffee Hall. It had occurred to him that it would be a very interesting thing if they were to appoint a committee to take observations of Weston during the last days of his walk—to notice his physiological condition under his performance without the aid of any intoxicating drinks.

The President thought this an excellent suggestion. They might afterwards call a special meeting of the Society and ask Mr. Weston to be present. He believed a great many members of the Society would attend, and a great many members of the profession who were not members would probably be glad to be present.

A resolution was then passed appointing the president and secretary to make a series of physiological and other observations on Mr. Weston.

THE INEBRIATES’ HOME.

Dr. Norman Kerr then read the following statement as to the operations of the Dalrymple Home for Inebriates:

"Immediately after the passing of the Habitual Drunkards Act of 1879, a society was formed with a view to founding a Home for Inebriates, so free from all motives of gain and so
publicly conducted as to afford the best possible means of testing the value of that Act. Incomplete as the Act is, it was felt that it would be a neglect of duty on the part of its promoters if opportunity were not given for a fair and satisfactory trial of the efficacy of its provision for voluntary surrender of personal freedom by the dipsomaniac desirous of cure.

"The lamentable ignorance of the physical aspect of intemperance which unhappily yet pervades religious and temperance circles in Britain, and the prevailing indifference to the despairing cry for help from the helpless and heavily-weighted dipsomaniac, combined to throw enormous difficulties in our way. From the first the labour and the responsibility have fallen on a few individuals. Among these were the late honorary secretary, Mr. S. S. Alford, F.R.C.S., whose indefatigable and self-denying work was prematurely terminated by the fatal accident, in 1881, when he was killed between the second and third adjournments of the important discussion which he opened in this Society on dipsomania. Mr. Alford’s place was in the emergency taken by myself, and I have continued to act ever since, in default of anyone else coming forward.

"On February 26th, 1881, the society was registered as a philanthropic association limited by guarantee, and the committee set actively to work looking out for a site. After inspecting more than forty sites, the freehold property called the Cedars, Rickmansworth, was purchased for £3,700. The house is beautifully situated on the bank of the river Colne, and is surrounded by charming and well-wooded grounds, the premises being, to quote the language of the Times, ‘admirably adapted for the purpose they are intended to fulfil.’ Nearly £1,000 has been expended in alterations and improvements, including a new dining-hall, kitchen, &c., and the house has been fitted throughout with the latest sanitary appliances, under the able supervision of the honorary architect, Mr. H. H. Collins, F.R.I.B.A., district surveyor for the eastern division of the City of London, for whose generous and efficient services the committee are deeply grateful. This expenditure, along with the additional cost of a winter tennis court (now in course of construction), and of a complete furnishing of the house and grounds, has found ample justification in the fact that before the end of the first quarter the House was full, and further applications for admission had to be refused. The Home has been licensed under the Habitual Drunkards Act for the reception of sixteen male patients, and has been called the Dalrymple Home, in honour of the late Dr. Dalrymple, M.P., the founder of the habitual drunkards movement in England, whose widow has been a generous supporter of the scheme.

"Contrary to the forebodings of most, who anticipated a pecuniary loss during the first few years, the first term of thirteen weeks shows a small actual profit.

"From a higher point of view the successful working of the Home has been remarkable and most gratifying. There has been no trouble with the patients, and no one has indulged in intoxicating drinks. Without an exception all whose terms have as yet expired have applied to be allowed to remain longer, as long, in fact, as financial or business considerations will admit of. There have been seventeen admissions during the quarter, nine being of patients under the Act and eight of private patients. Of the former it is specially worthy of note that four have each voluntarily surrendered his liberty for the full period allowed by the Act—viz., twelve months. One has entered for nine months, and four for three months each. Unavoidable hindrances alone have prevented the latter from coming in for longer periods. In all the cases there are hopeful signs of permanent good, though of this we are not yet in a position to judge. Twelve months is the shortest time likely to do permanent good, as the habitual inebriate is labouring under a true disease.

"This marked success has been
due in great part to the pleasant and
healthful surroundings of the Home,
and to the able and judicious treat-
ment pursued by their medical superin-
tendent, Mr. Joseph Smith, M.R.C.S.,
later Medical Officer of Health to the
Guildford Rural Sanitary Authority,
and a member of the honorary staff of
the Surrey County Hospital, whose
services the committee were fortunate
enough to secure. Effectively aided
by Mrs. Smith (the fact that she, her
husband, and their family are all total
abstainers adding greatly to the influ-
ence which they wield over their
guests), the superintendent has made
every patient feel at home and judge at
home as a member of a cheerful and
ennobling family circle, whose united
aim is to secure to every patient
restoration to sound bodily and men-
tal health, a strengthening of moral
power, and a return to the right ful-
filment of the serious duties of life.
Therapeutic treatment for the diseased
conditions, and moral influences, have
been the means employed to promote
the cure of the patients admitted to
the Home.

"The public opening of the Home,
on October 29th, 1883, by Canon
Duckworth, was honoured by the
presence of the presidents of several
influential medical societies, and re-
presentatives from almost all the
leading temperance associations; and
the Home has been highly commended
by the Times, Standard, Morning
Post, Daily News, Daily Chronicle, Pall
Mall Gazette, St. James's Gazette,
Globe, Echo, Evening News, Christian
World, and other general newspapers;
by the Lancet, British Medical Journal
and Medical Press, and by the Church
of England Temperance Chronicle, the
Temperance Record, and other jour-
nals. Much encouragement has been
received from the magistrates and
other influential local residents, as
well as from the clergy and medical
men in the neighbourhood. The
National Temperance League kindly
presented a handsome gift of tempe-
rance volumes for the library, includ-
ing a set of the useful and valuable
Medical Temperance Journal.

"With all this success there is one
regret. Many applications for admi-
ission have had to be refused. If the
sum of £2,500 were forthcoming,
accommodation could be added for
twelve more patients, and I earnestly
appeal for a prompt and liberal res-
ponse from the philanthropic public.
Were the committee supplied with
adequate funds, they would gladly
establish a home for females, and a
third home for habitual drunkards of
very limited means. To free the
existing Dalrymple Home from debt
£2,000 is still needed.

"Satisfactory as has been the
result so far of the experience of this
experiment, the present augury of
future good, the defective provisions
of the Habitual Drunkards Act and its
temporary duration stand greatly in
the way of complete success. The
action of the Home Secretary has
aided in the more effectual carrying
out of the law in one or two particular.
It is an offence against the Act for any
person, without the authority of the
licensee or medical officer, except in
case of urgent necessity, to supply any
intoxicant or narcotic to any patient
detained in a retreat. As it was argued
that this prohibition extended only to
the retreat itself, and did not forbid
publicans selling or supplying liquor
to the inmates in neighbouring public-
houses, the Home Secretary has issued
a new rule prohibiting a patient from
entering a public-house, and a publican
from giving to a patient intoxicating
drink anywhere. Another new rule
guards against the taking of an
intoxicant by an inmate on the plea of
health, by forbidding a patient drink-
ing any intoxicating liquor without
special written authority from the
medical attendant.

"A special discussion, which I had
the honour of opening, at the Social
Science Congress at Huddersfield,
eventuated in a resolution asking for
a relaxation of the present stringent
regulations guarding admissions into
a retreat, and more extended powers
of compulsory detention. A similar
resolution was adopted at the annual
meeting of the British Medical Asso-
ciation at Liverpool. I trust that this
Association will add its voice to that
of these two influential bodies, and by a formal declaration of opinion, so tend to impress the public mind as to create a sentiment too strong to be disregarded by the Legislature, and a conviction too abiding to be quieted with any measure short of really thorough and effective legislation in the interests of the unhappy victims of the overpowering drink crave."

Mr. Gray, in response to a request from the chair, said that his experience extended only over a period of two years, and he was certainly of the opinion of Dr. Norman Kerr that it took time, and a long time of residence, to be of real benefit to the patients. And he might say that in all the instances where there had been a long residence of from nine to twelve months he continued to have satisfactory accounts, and probably they had been some of the worst cases. He agreed with Dr. Norman Kerr that some really of the worst cases, two or three of which both he and that gentleman had seen instances of, required a very much longer term than twelve months, and those must of course be entirely free from the temptation of getting any liquor at all. The Rickmansworth Home was upon a better foundation than his. His home he had tried to conduct as a private establishment, making all to feel as of one family. The experience of Rickmansworth was short, but there were some patients who would do well after two or three months, give every sign of cure, and then from a very slight cause the patient would get drink. On an average he received from six to eight applications a week, but the majority were brought by their parents or those interested in them, and they came in their dire necessity, and almost all of them wanted to come for the mere expense of their board. Of course he need not say that the wear and tear of those patients were very great indeed. There were many people who would place themselves under the Act were it not that they had to go before two magistrates. If they had to go merely before one it would not be such an obstruction. He thought there should be some provision in the Act by which a guardian with a witness should be sufficient to place a patient. He had had scores of applications from ladies. He had taken in two, and he was almost going to say that he hoped he should never have another female patient; they would not give their consent to leave their home, and his experience was that they were worse than the male, and if something could be done in the amendment of the Act so that the husband and a witness could place a patient in a home, much service would be done. On the other hand, a wife with a witness should be sufficient to place her husband in a home. As it was, many a man was ruining his family and many a wife was ruining her home. No doubt in some instances there was great relief in a very short time. The recuperative power of these people, even when they had been for many years drunkards, was often remarkable. There was great harm done to patients of this class from the fact that there were so many homes open in England and Scotland that were mere farces, and having patients from one place and another, of course they had very good evidence as to how these places were conducted; and there was but one cry, that the patients had been able to get the drink in one way and another, and hence no good had resulted from such homes. Very much good had been done at the proper homes by short stays, but as a rule, in the majority of cases, although they abstained two or three months, and had been very particular, and had even resisted drink when it was brought before them, yet from some neglect on the part of friends to meet them or fetch them, some patients had gone home intoxicated, although they had conducted themselves soberly for three months, and had made up their minds absolutely to abstain. His opinion was that it was very important after their sojourn had finished to fetch them away, and to keep some guard over them for the first two or three months. Probably having to wait at some station they were led off to drink, and he had known them frequently do that after being
very good for three or four months. There was undoubtedly great advantage in a long time, and in every instance he heard very good reports of those who had been nine or twelve months in the home. His fees were £3 3s. a week, which, in many instances, were too high, and many would prefer 30s. or 35s. Mr. Brown, of Westgate, told him that he had no difficulty in filling his house at from £4 4s. to £5 5s. a week, but that was not the speaker's experience, and he thought it would be desirable that homes should be provided at lower rates than those now charged.

Dr. Rixey moved, "That this Association observes with great gratification the successful establishment of the Dalrymple Home for Inebriates, and is of opinion that the rules for the admission of inebriates under the Habitual Drunkards Act should be made less stringent in the case of voluntary patients by the abolition of compulsory appearance before two magistrates, and that power should be given to magistrates to commit habitual drunkards for a sufficient period to ensure their recovery."

Either of the preceding speakers would have been able to dilate more on this resolution than he could do, because they had had more practical experience of the obstacles which the present regulations of the Act placed in the way of patients, but he thought there could be no question that the entrance to these homes should be made as easy as possible consistent with the protection of the patients, and that in the case of well-known inebriates it should not require more than the appearance before a single magistrate, at all events, or even a signature of a magistrate, to enable a patient to enter voluntarily and agree to remain for a sufficient time—twelve months or so. Where it was involuntary, of course the decision of a magistrate was the more important, and it was not likely to be given excepting by magistrates who were treating prisoners, and who would be more willing to commit them to a place of cure than to prison for the object of recovery for the sake of their families. There were many such cases, and if the Act could be modified in the way suggested it would be of very great advantage, and this resolution was moved in order that this Association might exercise its influence in this direction.

Mr. Paramore seconded the resolution. He said that he had had much trouble to induce a man well off to go into one of these homes. He thought it was very desirable indeed that when a medical man was called in to see a patient suffering from dipsomania that it should only be necessary to get the authority of one magistrate to send the patient to one of these homes. It seemed to him rather an anomaly that paupers were sent to lunatic asylums and only needed to have one magistrate, while with a man suffering from dipsomania it was necessary to have two. The great object of the resolution, of course, was to strengthen a medical man's hands. It was often necessary to send a patient to a home in order to prevent him from committing suicide. He knew of a case where a man was labouring under the idea that the people next door to him were boring a hole through the wall, and he had actually written a letter to Scotland Yard and complained that unless they had some invulnerable material the people next door would come in and kill himself and his wife and child. It seemed that the Scotland Yard authorities did send to the police authorities, and it appeared that the parish doctor went with the magistrate, and yet although they saw that the man was really in a demented state and had that strong conviction that those people wanted to murder his wife and child, unfortunately they were unable to send him to one of these homes. He felt therefore that it was most desirable that this resolution should be passed.

The President: It is important that copies of this resolution should be sent to the Secretary of State for the Home Department and to the public press. It is no use passing this resolution and keeping it on our own minutes. We ought, therefore, to make it as comprehensive as we can, I
gather from what Mr. Gray said that, in his opinion, there is something wanted.

Mr. GRAY: The great difficulty is to get two magistrates together. There are scores of places in the country where there are not two magistrates. Then it is impossible to catch these patients at a certain time. They may be quite ready to go in at one time, whereas at another they will not sign their consent; then if you get two magistrates, these magistrates must be in sitting and conducting their business—they must be in session.

Dr. KERR: Not for the admission of patients—in the presence of two magistrates anywhere will do.

Mr. GRAY: At any rate there is great difficulty in getting the magistrates together. Under the present conditions they had no control over a private patient if he did not choose to conform to the rules of a home, but under the Act, although they could not stop a man from going out, they could have him brought back again. It was very difficult to catch people when they were inclined to sign, and that difficulty was enhanced by its being necessary to have two magistrates.

The PRESIDENT: Then what would you suggest?

Mr. GRAY said that another authority might be substituted. The great cry was with regard to the surrender of liberty, but that was ridiculous, because if a patient had any complaint he could always write to the Home Office, who would at all times send an inspector to inquire into the complaint.

Dr. KERR: We might say one magistrate desirable, or a medical certificate. In the original Bill it was a medical certificate and statutory declaration of two witnesses which is at present required besides the appearance before two magistrates. In Dr. Dalrymple's Bill it was provided to have a medical certificate and statutory declaration from two persons, with an appeal in the case of any harm being done. On the other hand, in the succeeding Bill, a jury had to decide whether a person was a dipso-

maniac, so that it is rather a difficult matter to define. In New York a voluntary patient had not to go before a magistrate. At Fort Hamilton all he had to do was to apply to be admitted, and if the committee agreed to take him in, he was taken in, and either he or his friends could apply to the court to rescind the order, but there was no necessity for a magistrate in the case of a voluntary patient.

Dr. Ridge said he should be rather inclined to omit the word two, and state that in their opinion the appearance before any magistrates in the case of voluntary patients should be omitted altogether. Public opinion would probably be educated by their resolution. He suggested that the resolution should be passed in the following revised form:

"That this Association observes with great gratification the successful establishment of the Dalrymple Home for Inebriates, and is of opinion that the rules for the admission of inebriates under the Habitual Drunkards Act should be made less stringent in the case of voluntary patients by the abolition of compulsory appearance before magistrates, and that power should be given to magistrates to commit habitual drunkards for a sufficient period to ensure their recovery. That copies of this resolution should be sent to the Rt. Hon. the Secretary of State for the Home Department, and to the public press."

The resolution in the above form was put and carried unanimously.

THE CAUSTIC ALCOHOLS AS REMEDIES IN DISEASE.

The President (Dr. Richardson) then read a paper on the use of the caustic alcohols, ethylates of sodium and potassium, in the treatment of nævus and body marks.

In reply to a question the President said that he had never used brandy, gin, or whisky or wine for the last ten years in cases of fever or other disease. Whenever he wished to administer alcohol he prescribed it as he would any other medicine, as alcohol pure and simple, in measured dose, in combination with water.

The proceedings then terminated.
Notes and Extracts.

NEW MEMBERS.

Dr. GILES, Henley-on-Thames. | Dr. K. MITCHELL, London, N.W.
Dr. WISE, Walthamstow.

NEW ASSOCIATE.

A. HENDERSON, Esq., Edinburgh.

NOTICE.

Members are reminded that the Subscriptions for 1883-4, still unpaid, should be paid at once.

The Annual General Meeting will be held on May 27th, at 25, Manchester Square (by kind permission of Dr. Richardson), and will be followed by a Conversazione.

Enfield, March, 1884.

J. JAMES RIDGE, 
Hon. Sec.

Notes and Extracts.

BEER AND MILK.—The action of various drugs on milk secretion has been investigated by Professor Stumpf, a German physiologist, by a set of observations made on goats. When beer was given to the goats, the specific gravity of the milk fell, and there was more fat and sugar in the product. — Midland Medical Miscellany.

DIPSOMANIA.—In a letter to the British Medical Journal (January 19), Dr. J. Muir Howie, of Liverpool, says:—“In reply to your correspondent 'X,' I beg to state that my experience in connection with the Home for Inebriate Women in this city supports the exhibition of the bromides to the subjects of dipsomania. In this institution our aim is to establish a healthy condition of nervous system, by means of good food, fresh air, and cheerful surroundings, avoiding, as far as possible, the use of drugs of any kind. There are cases, however, in which, at times, 'nervous irritability' becomes so intense as to demand special remedies for its immediate relief. In such cases, I am in the habit of prescribing a draught containing from fifteen to sixty grains of bromide of potassium, and from fifteen to sixty minimis of aromatic spirit of ammonia, in water, to be given every six or twelve hours, for two or three days, or until the 'nervous equilibrium' is restored. It is much better to give large doses at long intervals than small doses frequently. Under this treatment I have seen the attacks of drink-craving become less and less frequent, until they have completely disappeared. Of course, there are many cases in which every form of treatment is utterly unavailing. I remember one man, in my private practice, whose attacks were gradually lessened to one per annum, but who was never completely cured. This was demonstrated by his giving way to temptation during his annual attack.
one summer while I was out of town; although by means of bromide and sal volatile he had been maintained in abstinence for over five years previously."

**ALCOHOLIC LEG-PAINS. —** Dr. T. Clifford Allbutt, lecturer on the practice of medicine in the Leeds School of Medicine, sent a letter to the *British Medical Journal* (February 23), in which he says:—

"In the *Journal* of January 26 I observe a letter from 'Quárens,' who asks concerning 'tibial pains' in a hard drinker. These pains are so characteristic and so often met with that I feel surprised that they have received but little attention. Indeed, I cannot call to mind any description of them in medical literature, nor do I find that my medical friends know much of them. These pains are commoner in women than in men; they are often tibial in distribution, but occur also often about the ankles and feet. They are usually associated with marked cutaneous hyperæsthesia. I diagnosed in women many a case of secret drinking by these pains alone. Indeed, if a woman were found to complain bitterly of pains in the legs below the knees, pains somewhat nocturnal in occurrence, and as severe as those of syphilitic periostitis; if she resented any free handling of the limbs; if, again, she lay with legs adducted, extended, and with the feet pointed, much as in lateral sclerosis, but without permanent rigidity; if for all this outcry there were no visible cause whatever, the tibiæ smooth, and no more sign of spinal disease than perhaps a slight ankle-clonus, then I should, almost without hesitation, infer that alcohol was the cause. As 'Quárens' finds, the pains cannot readily be eased, and can be cured only by time, with abstinence. In his case, I suspect the cause is still in operation. For my own part, I tell my patient how he is to promote his own cure, and am not sorry to use the pains as an argument for abstinence. I feel little doubt that the cause of them lies in an irritation of the spinal cord or its membranes."

**GLYCERINE IN ACUTE FEVERS.—** Professor Semmola calls attention to the use of glycerine as an aliment of economy in the treatment of grave acute febrile processes, and especially in typhoid fever. Alcoholic drinks, he says, have only a pretended antiseptic action, which has deceived many eminent practitioners. In his opinion alcohol produces a toxic action very much as do other antipyrétics—veratrine, digitalis, carbolic acid, and salicylic acid—disproving the dangerous utopian ideas of some young physicians concerning the power of carbolic and salicylic acids, &c., to cure or abort typhoid fever. As to alcohol, on account of its exciting action on the heart and cerebrum, and its disturbing action on the digestive organs, Semmola has entirely discontinued its regular and constant use as an aliment in grave febrile processes, reserving this agent for combating threatening heart failure. Glycerine, on account of its chemical composition, long since appeared to Semmola as a substance which might replace alcohol in these fevers, and which would give the patients a greater resistance to the action of the fevers. He uses the following formula:—

B.—Glycerine, pure... f 5 j.

Citric or tartaric acid 3 j.

Water ... ... ad. f 3 j xvi. — M.

S.—f 3 v. — viii. every hour.

This solution is well borne by the patient; but sometimes, on account of its acidity, Semmola often gives it at the hours for taking milk or beef-tea. In the rare cases in which the solution is unpleasant to the patient, he replaces the acid by a few drops of oil of anise. The principal therapeutical effect, and the only one upon which Professor Semmola insists, consists in the quantity of urea eliminated. From an accurate observation of twenty cases of typhoid fever, he concludes that the diminution during twenty-four hours may amount to as much as 7 vii., and as a rule it is from grs. xc-c. He has proved by experiment that the glycerine is the causative agent in this diminution.—*Journal de Méd. de Paris.*
PHYSIOLOGICAL OBSTACLES TO THE PREVENTION OF INTEMPERANCE IN THE RISING GENERATION.

By James Muir Howie, M.B., Liverpool.

A few weeks ago I was sorrowfully informed by a medical friend that a certain patient of his, in whom I was interested, had become a hopeless inebriate. About six years ago this patient had a most serious attack of diphtheria during which his doctor thought it necessary to advise the administration of brandy. On recovering from his illness he came to consult me as to whether I thought it advisable for him to continue an abstainer (he had been an enthusiastic Good Templar), seeing that the brandy, in his opinion, had saved his life. "I used to think," said he, "that alcohol was good for nothing in the world, but now I have quite changed my opinion and I think that I ought to take a little every day for the good of my health." I inquired whether his doctor had prescribed nothing but brandy for the cure of his diphtheria. Oh yes, he had ordered him to stay in bed and apply poultries continually to his throat, had prescribed a mixture of certain drugs and fed him upon beef-tea and other nourishing soups. "Do you then," said I, "attach no importance to the beef-tea, and the medicines, and the rest in bed, and the poultries? Had they no hand, whatever, in saving your life? If they had, then, to be consistent, you ought not to touch a morsel of solid food; you ought to continue to drink your nauseous drugs, and wear your poultries, and, indeed, confine yourself to bed for the rest of your natural life." I urged him to return to his Good Templar Lodge and never to touch a drop
of alcohol until it was again ordered him by his doctor. I did not express the belief, which I really entertained, that he would probably have made as good a recovery without the brandy, because I would thereby have weakened, instead of having strengthened, my argument. Besides, we are by no means bound to prove that alcohol is useless as a medicine, because we assert that it is injurious as an article of diet.

Many of our opponents consider that they have completely settled the question when they adduce instances of the beneficial effects of alcohol in disease. It is no valid argument in favour of arsenical wall-papers that arsenic is a valuable curative agent in certain abnormal conditions of the blood or of the skin. Although chalk-mixture is a useful household remedy in ailments of childhood, we do not knowingly permit the dairymen to dispense it daily to our families. And just as we object to our "green peas" being coloured with copper, and our bread whitened with alum, so also do we refuse to wash down our roast beef with beer, or adulterate our coffee with cognac. Moreover, it appears to me that the greater a man's faith in the curative power of alcohol as a medicine, the stronger is his reason to abstain from it as an ordinary beverage. Physicians assert that, in the struggle between life and death, alcohol is most useful to those who are least accustomed to its effects. Thus the total abstainer has a double advantage. He avoids one of the most potent factors in the production of disease, and, by so doing, retains in all its power one remedy for such disease as may otherwise come upon him.

The man who loses himself in the darkness does not strike his last match until he is fully satisfied that he cannot proceed without its light. The traveller followed by a beast of prey does not fire his last shot in the mere hope of frightening away his adversary. He waits patiently till he is sure of his aim. If you have faith in alcohol as a medicine, do not accustom yourself to its effects by drinking it as a beverage. The day may come when you will wish it otherwise. Do not strike your last match only to see what o'clock it is. Don't fire your last shot merely for the pleasure of hearing the report. The patient to whom I referred at the outset found alcohol so soothing and comforting that it was impossible to convince him that it was not good for his health, and the result is that he is now a hopeless inebriate. And it is because I know this to be no solitary instance that I have decided to address you for a few minutes on the physiological obstacles to the prevention of intemperance in the rising generation.

The growth of a healthy public opinion has done much, and is still working well in diminishing the amount of intemperance
among all classes of the community; but it must strike all who are brought into close contact with the inner life of men, that while intemperance is decreasing as a vice it is increasing as a disease. To preserve our children from the evils of alcohol is one of the deepest parental anxieties of the present day. The mother knows well that if her boy gives way to drink he may soon forget all the lessons which it has been her life-work to impart. The father remembers that many of his companions, who started life with bright prospects, have been ruined by the bottle, and both unite in asking the momentous question, "How shall we train our boys and girls that they may escape the dangers of alcohol? There are some who imagine that they have accomplished all that is possible for them when they succeed in persuading their children to take the pledge and to abstain from alcohol as long as they dwell under the parental roof.

It is quite true that no man can become a drunkard who never swallows his first glass; but in the present state of society what parent can make sure that his boy will never in a weak moment be tempted to swallow that first glass. Some bosom friend may bring it to him as a cordial to soothe an aching heart, or as a medicine to relieve a throbbing nerve. And suppose that he should be led to take this enticing drug into his system, is there any course of training which will be likely to prevent his repeating the dose, and thus to convert his first glass into his last. It is our duty not only to teach our children to do right; but to make it as difficult as possible for them to do wrong; habits are often more powerful than principles, and it is my intention to indicate from a physiological point of view the precautions which all parents ought to adopt in order to render it easier for their sons and daughters to escape the bonds of the Devil's Chain.

We must never forget that intemperance is not only a vice. It is also a disease. No one will deny that in cases of chronic-dipsomania the nervous system has undergone such changes as to render abstinence almost a physical impossibility. Many sufferers from this disease have only themselves to blame for the production of such a condition of all but hopeless degradation; for they have deliberately taken to alcohol as a vicious indulgence. But on the other hand there are very many, and the number is increasing year by year, who are ripe to fall into the slough of the drunkard although they have never yet tasted intoxicating liquor. There are thousands, both young and middle-aged, who are only prevented by their pledge of total abstinence, or by the accident of never having tasted alcohol, from sinking with appalling rapidity to the lowest depths of debauchery. Some of these, it is true, are the descendants of wine-bibbing and spirit-
drinking ancestors, who inherit a desire for alcohol as the young tiger inherits his thirst for blood. The others are the inevitable offspring of the rush and worry of the present state of society, in which childhood and youth are stimulated with improper nourishment, and deprived for the most part of the wholesome advantages of fresh air and vigorous exercise. Under such unnatural conditions the muscles are poor and badly developed and the appetite for substantial food is gradually destroyed. The nervous system is unduly excited both by its food and surroundings; so that it grows out of all proportion to the rest of the body and frequently changes the entire constitution of whole families. But this excessive nerve growth, instead of being beneficial, becomes highly injurious. The nerves which grow under the stimulation of disproportionate mental exercise and a life of excitement, accompanied by the injurious influences of tea, coffee, hot-rooms, and foul air are no more to be compared to sound nervous tissue than the proud flesh of an unhealthy sore is to be compared to the compact muscle of the blacksmith’s biceps. Our children are becoming far too precocious. Their nerves grow too rapidly to be capable of the performance of steady continued work. Like Jonah’s gourd, and all other rapid growths, they have little stability. They promise wonderful achievements during their tender years; but in adult life they have little power of sustained action, and require constant further stimulation to prevent collapse. The result of this constant excitement and stimulation is that the nervous system becomes painfully sensitive to the slightest external influences, and some of the strongest minded men find the grasshopper to be a burden, and imagine every molehill a mountain, even during the time that, according to the calculations of our forefathers, they ought to be in the prime of life. A trifling mistake in the morning will suffice to worry such a man all day long; any slight disturbance in the evening will drive away half his night’s rest. The wheels of his life are revolving with preternatural and tormenting rapidity. He would give all he possesses to obtain some potent regulator to control their movements; but no such regulator is to be found. His only hope of comfort lies in a complete or considerable alteration of his life’s conditions, so as to allow the nervous system to resume a quiet unhurried, natural, activity. In the battle of business or the pursuit of politics he cannot afford time for such a change in his habits, and thus the noisy wheels continue ceaselessly to revolve until they wear themselves out. The end of such a life may be immediately brought about by paralysis, heart-disease or some other malady directly traceable to worry. It is not so much over-work as over-worry that kills such men. It is very significant of the present hurried nervous life, that deaths from such diseases have increased 65 per
Intemperance in the Rising Generation.

In proportion to the population, during the last thirty years, while at the same time the mortality from other causes has considerably diminished. Some of the hurried workers in these days die of nerve prostration in the midst of their work, without contracting any definite disease. A man's work ought to improve his health; but in the present day it is more frequently an injury. In human society, as in the bee-hive, the drones used to die sooner than the workers, but we are rapidly altering that salutary state of things. Now, if you introduce the clumsy crowbar of alcohol into the delicate machinery of the nervous system, you bring its action more or less to a standstill. This method of producing rest is a coarse and injurious one, doubtless, but no one can deny that in most cases it produces the desired effect. Anxious men do not drink alcohol to stimulate them. They are over-stimulated already, and the effect of alcohol upon them is to put one-half of their nervous system to sleep, while the other half enjoys merely a semi-conscious existence. In this condition of partial intoxication all the worries and troubles of life disappear from the consciousness as if by the wand of a magician; and when a worried man has once made the experiment successfully the probability is that from that moment he is on the road to ruin. The greatest blessing that can befall such a man is that his first dose should be either too small or too large. For if the dose be too small it will act as a stimulant and thereby increase his present discomfort; whereas if it be too large, his aching head on the following morning may teach him a valuable lesson.

From what I have said you will gather that the three great physiological obstacles to the prevention of intemperance are as follow:—

I. The Hereditary influence of alcoholic drinking.
II. The influence of improper feeding—under which head are included under-feeding and over-feeding, as well as the use of improper articles of diet.
III. Excessive mental exertion, nerve strain, or worry.

Let us first consider the Hereditary influence of alcoholic drinking. The following case, recorded by the editor of the "Quarterly Journal of Inebriety" affords a striking example of this:

"The ancestors of A. B. were Irish, and inebriates. Owing to a rise in real estate the son became wealthy. He was talented, and a paroxysmal inebriate at twenty-six years of age. He married a pious woman, having neurotic ancestors, in spite of the protest of the family physician. Seven children followed this marriage; two died in infancy of convulsions; the third became insane at puberty, and is now in an insane asylum, hopelessly incurable; the fourth grew to manhood, and is now an inebriate pauper and criminal, having been in prison five out of the last
eight years; the fifth became the wife of a wealthy man, and, in
a paroxysm of inebriate insanity, killed her child, poisoned her
husband, and then committed suicide. The sixth is a low dealer
in spirits and a petty criminal, who has repeatedly been punished
for crime. The seventh, after a short life of great excesses, died
in a public hospital. The father became a paralytic, lost his
property, and died in an asylum. The mother died in puerperal
convulsions at thirty-four."

Take another example. In April last, a boy of eight years of
age, suffering from delirium-tremens, was treated at the Children's
Hospital, Dublin. He had frequently been found intoxicated,
and his face bears the usual signs of excessive drinking. He had
stolen a quantity of whisky and wine and had drunk every drop.
His mother, it appeared, was a drunkard, and the doctors believe
that the desire for strong drink forms part of his nature. Now,
as this special obstacle, rightly understood, is a key to the others,
and as many thoughtful people find it difficult to understand how
a love for alcohol can be inherited, you will perhaps permit me
to offer an explanation of the manner in which this is effected.
So closely does alcohol enter into the intimate structure of ner-
vous tissue, that its habitual presence there for any length of
time appears to render it, for the future, essential to the normal
functional activity of the nervous system. Deprive the habitual
drunkard of his accustomed draught and you seem to have kind-
dled the fire of Hell in his inmost vitals. By some this is inter-
preted as a proof of the danger of sudden total abstinence. They
assert that alcohol must serve a useful purpose in the economy,
when its sudden withdrawal is productive of such injurious conse-
quences. Take a canary that has spent years of his life in the
unchanged atmosphere of a smoky chamber and carry him into
the free air and sunshine. He will probably fall from his perch
unconscious from the sudden change. But is that any proof that
foul air is better than pure, that smoke is better than sunshine?
Let the little songster recover from his temporary swoon, and he
will gradually become accustomed to his altered surroundings.
In the same manner I have seen the habitual drunkard lie for
weeks in a condition of the lowest nervous prostration, and some-
times of complete unconsciousness, on being entirely deprived of
alcohol; and many times as life trembled in the balance I too
have trembled for the result. But in most cases, time and
patience and dogged determination are ultimately successful.
After days or weeks, and sometimes months, of anxious watching
your patient gradually wakes from his protracted swoon, becomes
accustomed to ordinary diet, and lives a useful and healthy life so
long as he continues to avoid the intoxicating cup.

But this condition of nervous prostration does not supervene
Intemperance in the Rising Generation.

immediately upon the cessation of alcoholic drinking. The first effects of abstinence are quite of an opposite character, the nerves of the drunkard cannot rest without his accustomed beverage. He wanders about for one or two days and nights in the most wretched restlessness; the most luxurious couch brings him no repose, the most comfortable pillow cannot soothe him to sleep. Now, I wish to inquire how it is that sudden abstinence from alcohol produces such preternatural and tormenting activity of the nervous system, to be followed by intense depression. The answer is as follows:—Alcohol in any satisfactory quantity produces an effect upon the nervous system similar to that exercised upon a coal fire by covering it with ashes—the former interferes with nervous action just as the latter prevents active combustion. The only difference is that in the case of alcohol there is a short primary stage of nerve excitement, before the sedative effect becomes apparent. A man who drinks much alcohol is in the condition of a fire choked with its own ashes from within, and covered by other ashes from without. He is neither as warm, nor as active, as an abstainer of the same constitution and temperament. His life smoulders slowly, while that of an abstainer burns brightly. But this smouldering life prevents the nervous system getting sufficient healthy exercise, and it is so choked with its own debris that it cannot absorb sufficient nourishment. The consequence is that the nerves become weak, and weak nerves are always irritable. The nerves that do their work in a hurried and jerky manner are easily exhausted. The strong nerve is deliberate and steady in its action. As long as the nerves of the drunkard are kept under the influence of alcohol he is comparatively comfortable, because of their inability to be disturbed by either external or internal influences; but as soon as they are left to themselves, they become painfully sensitive to everything that is wrong within him and around him, hence the so-called feeling of Hell which is kindled in his bosom. It is this feeling that compels him to swallow whatever drink he can reach, so as again to paralyze his "physical conscience." If, however, you put him beyond the reach of alcohol the nervous system will continue its irritating activity until it has exhausted all its available energy, when it sinks into the condition of alarming prostration—to which I have already referred. The effect of large doses of alcohol is to injure the nervous system in one way, while the effect of small frequent doses is to produce injury in quite another way; but, strange to say, both large doses and frequent small doses ultimately produce the same kind of injury, viz. excessive irritability, from imperfect nutrition in the one case, and from over-stimulation in the other. Now, it is this excessive irritability of the drunkard's nervous system which is inherited by his
children, and which makes their life so full of trouble and worry that they naturally fly to drink for that comfort which they fail to find elsewhere.

But we must not forget that this same condition of nervous irritability may be brought about by other means than the drinking of alcohol.

Many a young man spends all his nervous energy in his early business struggles or during the laudable efforts of a successful university career. He may reach a foremost position in commerce or literature; but his children are in great danger of becoming either drivellers or weaklings, or drunkards. How frequently do we observe that the sons of great men have little power to follow in their fathers’ footsteps. Let us suppose, now, that we have to deal with a boy, who has inherited a weak, irritable, nervous organization. It matters not whether his father were a drunkard or a man who spent all his energy for the good of his family, and that of society. The same treatment is absolutely necessary as a prophylactic against intemperance. Fresh air is of as much moment to such a boy as water is to a fish. He requires almost as much exercise as a greyhound, and nearly as much food as a man. He ought to sleep like a dormouse, but, when awake, he ought to be as merry as a cricket. I would send him to no school where playground training is not considered of equal importance to book learning. It is an old and sound belief that boys are far superior to books in the education of their fellows. He ought never to be expected to learn more than can be accomplished without worry. From our education codes and school examinations there would appear to be a belief in educational quarters that the best way to prepare a boy for hard work in the prime of life, is to grind him down with equally severe work in his tender years.

If you wish a horse to be capable of endurance in after-life, you do not put him upon the turf between two and three years of age.

Education is not forcing the nervous system to increased growth, it is the training of what has already appeared. It is a great mistake to suppose that you can increase the nerve-power of a schoolboy by forcing his brain. You might, with as much reason, suppose that you double a certain quantity of india-rubber by stretching it over a given area. In both cases you produce an appearance of increase while in reality you diminish the resisting power. Is it any wonder, then, that the nerves of this generation are becoming as shoddy as its garments, seeing that we expect as much work from a schoolboy as from a full-grown man? And if that schoolboy is insufficiently supplied with food, as in the lower parts of our large cities, his education will have no in-
fluence whatever in lessening his tendency to intemperance. If we have power to compel negligent parents to pay for the education of their children, we ought also to compel them to find money for their adequate nourishment. Our School Board system will not do much for the elevation of the masses until it has power to exercise an influence over the entire life of its scholars, and is responsible for their health as well as for the extent of their information. It will then see it to be its duty to provide spacious class-rooms and extensive playgrounds with an immense soup kitchen attached to every school. I am informed by those who are well acquainted with the lower parts of Liverpool that the principal food of the children at every meal is tea and bread—sometimes with dripping, but frequently without. Now, however refreshing a cup of tea may be to adults there can be no doubt of its injurious effect upon growing children. I have made many observations upon this point, and I maintain that there is no better way of training children to drink alcohol in adult life than this utterly pernicious system of ruining their nerves with tea or coffee during their childhood. In the case of domestic servants, especially, and not unfrequently in the case of their mistresses, I have also observed a direct relation between the abuse of tea, and the abuse of alcohol—the one leading directly to the other. I do not refer to those who take their two cups of tea in the day, one in the afternoon and one in the evening; but to those who begin and end and carry on the day with a cup of tea at every stage. It is physiologically wrong to drink tea or coffee in the early part of the day or at any time before mid-day dinner. The correct drink for breakfast is cocoa, or warm milk (diluted with hot water for those who cannot digest milk alone); or a plate of warm soup. Why don't we give our children soup every morning for breakfast as they do on the Continent? Good milk soup or vegetable broth. They do not require rich animal broths. Children have quite enough of inborn natural stimulus to enable them to develop without stimulating nourishment. Keep your savoury meats and your tea and coffee until the natural powers of assimilation begin to demand such external assistance, and then you will find them of the utmost value. But if stimulants (I mean tea, coffee, and much flesh meat; alcohol is only a stimulant in very small doses) are taken when they are not required, they tend to produce a hyper-sensitive condition of nerve, and thus to create a craving for some narcotic agent, such as alcohol or opium, which will relieve the nervous irritability induced by the stimulant.

Look at the hold which opium-smoking has taken upon the tea-drinking Chinaman. It is the plague of China, although only the growth of two hundred years. I am informed by a
medical friend that he rarely feels any desire for wine except when he has taken an extra quantity of tea. Oliver Wendell Holmes represents his Professor as drinking copious draughts of black tea to counteract the effects of any extra glasses of wine which he had been tempted to imbibe at a dinner-party. Now if tea is the antidote to alcohol, as certainly is alcohol the antidote to tea. I contend that you might with as much reason teach your boys to smoke tobacco as permit your girls to drink tea, before they can have a shadow of need for either one or the other.

By what means have we protected ourselves against Asiatic Cholera in these islands? First, by a careful system of quarantine we have to a great extent excluded the poison from amongst us. Second, by a vigorous attention to cleanliness and general sanitary improvement we have abolished all facilities for the spread of such poison as may have found its way into our midst. The establishment of a healthy, public opinion in favour of total abstinence is our quarantine against wholesale inroads of alcoholic poison; but my contention is that we must not forget individual and general nerve sanitation, otherwise a small amount of unprevented poison may produce an unlooked-for epidemic of disastrous drunkenness.

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DYSPERTIA.

By Dr. C. R. Francis, formerly Professor of Medicine in the Medical College, Calcutta.

INDIGESTION, or dyspepsia—derived from two Greek words, ἔνε and πεπτω, signifying to digest with difficulty—taken in its widest sense, applies to any abnormal condition that interferes with the digestive process in any part of the alimentary canal. But, restricted to its popular signification, the term is understood to refer more especially to derangements connected with the stomach, or the organs immediately contiguous. In some cases the digestion is incomplete; in others, it is perfectly performed, though with difficulty, as indicated by pain, or uneasiness, with other disagreeable symptoms. There is probably no disorder in which aid from alcohol is more readily and eagerly sought than in this, particularly in certain forms of it; and none, perhaps, in which the remedy proves so treacherous
Dyspepsia.

and destructive; causing, in the long run, an infinite amount of harm to the stomach itself, and, in many cases, developing the tendency to ulterior disease. Whilst indigestion in its various forms is certainly one of the most distressing and disabling of disorders that afflict civilized humanity, and though it is often one for which the sufferer—more particularly when his face gives no sign of the trouble within—receives little or no commiseration, it may fairly be admitted, in limine, that, if in the selection of food and drink, and in the mode of cooking and consuming them, the rules which have been so clearly established both by science and experience were more closely followed, there would be infinitely less of this cruel malady in the world. People are so apt to overlook the great importance—paramount for those who are no longer young—of either thoroughly masticating their food—the toothless are at all ages vastly indebted to the dentist—or of having it so completely cooked that further operating in the mouth becomes less necessary. I have now under my care an elderly gentleman, with deficient grinders, whose flatulent dyspepsia, of a year’s standing, is entirely due to lumps of solid food being sent down into an enfeebled stomach.

Thirty years ago, being then in India, I was a martyr to dyspepsia, following a severe attack of malarious remittent fever. Nausea, vomiting, varying degrees of pain and uneasiness both before and after eating, heart-burn, loss of appetite, flatulence, and gastrodynia, with spasm of the stomach, are symptoms with which I have only been too familiar. Disturbance of the digestive function is, in India and other tropical countries, a very probable sequel to such an attack; but it is not inevitable, as scrupulously careful dieting will prevent it. And I am quite convinced that many cases which become chronic, and often lead to the dyspeptic coming home on medical certificate, would be cured much easier, rendering the temporary invaliding unnecessary, if alcohol in some shape or other did not constitute an important item in the treatment. Prescribed in moderation by the medical officer in the first instance, it is taken, if not immoderately, at any rate too frequently by the patient afterwards, under the impression that it is absolutely essential.

Hypochondriasis is a mental constitution—associated often with derangement of the digestive organs—that is very apt to lead the unhappy victim of it to fly to stimulants for relief. One sees it not unfrequently in India. Whenever I have had the opportunity I have made a point of recommending the individual to leave the country as soon as possible. Good at all times, in such cases change of life, of scene, and surroundings, are especially necessary for the dyspeptic hypochondriac in that country. And the result of such change is usually very remarkable. From
Dyspepsia.

having been languid, listless, irresolute, and desponding when there, utterly unfit for duty of any kind, and apprehensive of some impending evil. I once had an officer under my care who, day after day for a week, made sure that he would die before gun fire (twelve, noon), the fear of approaching dissolution coming on every morning after breakfast. These patients are totally changed within a few days of their arrival at home. It is a mistake to attempt to ridicule the sufferers from this disorder. A kindly explanation of the actual condition, and of the rationale of the necessary treatment is much better practice; and sensible patients are then far more likely to put forth the necessary exertion. An hypochondriacal old gentleman, retired, and with nothing to do after a very active life, complained to me of the curt advice he had received from a celebrated London physician, who, on accepting the fee, said to him, "Go home, and keep rabbits." But the busy practitioner had no time for more: he went straight to the point at once. Above all things should alcohol be strictly interdicted. A friend of mine in India, for several years, took a third of a bottle of sherry every day for low spirits, which became worse than ever as the years rolled on: and at sixty he died of dyspeptic phthisis.

Loss of appetite is another condition which too often leads to drinking, especially in tropical countries. Produced very frequently, in the first instance, by excessive use of the very agent which is employed to remedy it, the see-saw process is continued—down in the morning; up at night—from year to year over a prolonged period, till, at length, the stomach becomes excessively weak—congested often, if not inflamed—and irritable to an extent that is not often seen now-a-days in colder countries. As a symptom of some approaching disorder, anorexia is often a valuable indication.

And it is frequently the result of nervous exhaustion from a variety of causes, amongst which the enervating influence of a tropical climate, of hot weather even in temperate zones, has a prominent share. It must be distinctly understood that the worst remedy in these last cases is a mere stimulant, such as is alcohol. And yet it is the one most frequently resorted to. A busy man—I have one in my mind as I write; he is a medical practitioner—comes home to dinner after a fatiguing round amongst his patients on foot, but can't eat; he has no appetite. He soon, however, creates one with a glass of sherry bitters, and then, he tells me, he makes a good dinner. This practice may not be attended with evil consequences if only occasionally indulged in, and in early manhood; but if, as is too frequently the case, it becomes habitual, and if it be carried into advanced life, the stomach will inevitably lose its tone, and a train of
Dyspepsia.

Dyspeptic symptoms ensue that are distinctly traceable to this pernicious habit. A wiser plan is to rest the stomach—the native of India doesn’t attempt to eat if he is not hungry—especially after fatigue, and to take a small quantity of nourishing soup, which, it may be, after a little time, will invigorate the organ to the extent of its wanting something more substantial. Treatment is undoubtedly necessary sometimes, and there is nothing better, I believe, than nux vomica. A few drops of dilute phosphoric or sulphuric acid, with ten of the tincture of this drug, or, say, five of the liquor strychniae, taken either with the dinner (or other principal meal), or a short time before it, will often restore the tone of the stomach, and thus enable it to digest what otherwise would have been beyond its powers. But the body generally must be invigorated at the same time with the same remedy. By strengthening the nervous system at large the nerves of the stomach become strengthened too. But in many cases—markedly in certain constitutions and temperaments—nothing is effectual short of a change of climate. A sojourn in one of the delightful sanatoriums in the Himalayas, or in the Neilgherreries, or Mahableshwar hills for a few months often suffices for the resident in India, though there is a charm in the magic of home which in many cases seems essential to the cure. For the untravelled European hypochondria, the choice of change presents itself in great variety.

A very common fallacy prevails amongst Europeans, not only in the East, but in all parts of the civilised world—viz., that alcohol is good for a jaded stomach. Now this organ may become jaded from two principal causes—excessive eating; excessive drinking of alcoholic or other stimulating potations, as beer, &c. The former is sometimes seen in the natives of India—the Hindoos especially—who, often taking only one principal meal during the twenty-four hours, gorge themselves then to repletion, as if they were about to hibernate for a prolonged period! But they don’t have recourse to alcohol to enable them to digest a similar meal the next day.

When I first went to India as an assistant surgeon I was most hospitably entertained for a week or so by the Superintending Surgeon of the Circle. He was over fifty and had a withered look. I noticed that every day immediately after our early dinner he tossed off a full wine-glass of pure brandy, having drunk nothing but a little water during the meal, and, on my venturing to inquire the reason of this, Dr. A—said that it prevented all uneasiness in the stomach, from which, without it, he was apt to suffer, and that it promoted digestion. Two years afterwards I again saw this medical officer in a higher administrative grade, and in a totally different—perhaps a more congenial—
climate. He was then looking a full decade younger! Until within the last few years, when I first began to study the subject of alcohol, I had been accustomed to consider that Dr. A——'s improvement was due to the brandy, to a needful stimulant administered at the right moment for a temporary purpose. But I think so no longer. I believe that nux vomica and a mineral acid, as in a case of anoraxia, would have answered the purpose more effectively as well as more scientifically. I have since often prescribed these drugs for a similar morbid condition, and with marked success. But these are the cases—jaded stomach depending for the most part upon nervous atony, however brought about, in that organ—where, in tropical countries especially, alcohol is considered so essential. I am sure that, as a rule, it makes the condition worse. It certainly can only give temporary relief. To go back, for a moment, to myself. I am now in the sixth decade of life—having been an abstainer from alcoholic stimulants for nearly three years—fairly free, if prudent, from all dyspeptic troubles (except slight occasional flatulence), and can digest almost every kind of food that is brought if it be digestible. I think I may decidedly venture to attribute this improvement to abstinence from alcohol; for, until it was discontinued, flatulence after each principal meal was a prominent symptom. It may be well, perhaps, to briefly pass in review the various forms of indigestion and the appropriate treatment in each, in view chiefly to demonstrate that all are, ceteris paribus, manageable without alcohol.

CARDIALGIA, OR HEARTBURN.

Pathology.—The fluids of the stomach may be abnormally acrimonious, or the stomach may contain an excess of hydrochloric acid; or acetic, or lactic acid, developed during the process of digestion, may remain after its completion. The essence of the disorder is acidity, come from whence it may, of the primum viae.

Causes.—Anything that tends to delay the food in the stomach, as an impediment to its onward progress; dilatation—not a common condition—or atony of the muscular coat; errors in diet; excessive drinking of alcoholic beverages, or tea, are amongst the most common causes of heartburn.

Symptoms.—The popular term—heartburn—sufficiently indicates the most prominent symptoms, viz., a sense of heat in the stomach which often extends upwards behind the sternum as far as the throat, acid eructations sometimes accompanying it. The sense of heat, in nervous temperaments, is occasionally diffused over a wider surface, extending even to the neck and arms.
Dyspepsia.

Treatment.—The offending agent being acid, the best remedy will obviously be an alkali. But it is well to know that all alkalis are not equally suitable. Some persons who are constant sufferers from heartburn pin their faith on magnesia, and others on carbonate of soda; whilst but few, comparatively, have recourse to those which are quite as efficacious and more free from danger, viz., sal volatile and carbonate of potash. Magnesia and soda may, if habitually taken, lead, in the case of the first, to intestinal congestions; and, in that of the second, to stone in the bladder. But the alkaline treatment is of temporary service only. The cause being ascertained, the necessary remedial measures must be adopted accordingly. Nux vomica, with phosphoric acid, are often of great service, the diet being bland yet nourishing. Alcohol in cardialgia is, of course, out of the question: indeed, in this condition, its “fire-water” nature seems to be recognised.

PYROSIS, OR WATER BRASH.

Cause.—Pyrosis is more common amongst the poor whose stomachs are, for want of systematic and unfailing nourishment, less vigorous than those of the well-to-do classes—being often still further weakened by excesses in alcohol or tea—and are thus unable thoroughly to digest and prepare for assimilation the frequently half-cooked food that is introduced into them. It is probably not the farinaceous food—oatmeal especially—as such that causes the disorder in Scotland, but the union of these two causes: for it is equally common in Lapland and in various parts of England and Wales where a vegetable diet is chiefly used.

Symptoms.—Derived from a Greek word signifying fire, the most prominent symptom is a burning sensation at the pit of the stomach, with or without a feeling of constriction in that organ, followed by the eructation of a thin watery fluid—variously described as sour or insipid, or as having no taste at all and cold—which comes up without effort, but often in large quantity. Sometimes accompanying the sense of constriction there is pain more or less severe—aggravated occasionally by standing upright. In the milder cases there is simply a sudden eructation of the peculiar fluid without pain or any other symptom. Pyrosis may be associated with organic disease of the stomach.

Treatment.—The best immediate remedy is a 30-grain dose of the pulvis kino compositus—a combination of opium with an astringent: but the main point should be to improve the tone of the stomach with a diet (including a fair share of meat) that is generous and varied. Quinine and strychnine alone or together will sometimes be of great benefit. The bowels, which are apt to be costive in this disorder, should be kept relieved daily,
especially if opium be given. Here, again, "fire-water" is manifestly out of place.

VOMITING.

There is no form of indigestion, whatever the cause, that is more distressing than vomiting—an inverted action of the stomach—especially when accompanied by much retching. It may be produced by a great variety of causes, general as well as local; hence the importance of, in doubtful cases, carefully examining the ejecta from the stomach.

Pathology.—Vomiting may be only a symptom of a weak, or unduly sensitive, or overloaded, or irritable stomach; conditions capable of being more or less rectified naturally, or by art: or it may be an indication of sympathy between this organ and another that is either diseased, or in a temporarily abnormal state. The stomach is often weak as to its muscular vigour after fevers. It may be sensitive from idiosyncracy with reference to certain articles of food; or irritable in nervous constitutions when, from mental or other depressing influences, the whole system is out of gear: or it may be overtaxed by the gourmand and the drunkard. Foreign substances within the stomach will usually lead to an effort to get rid of them, as bile, nauseous medicines, corrosive poisons, &c., &c.

Abnormal states within the organ will give rise to a similar effort, not always, however, attended with success.

In children it is often the result of reflex irritation during teething. It may be an indication of cerebral disturbance, or disease; or it may occur as the result of the brain being thrown off its balance, as it were; as exemplified in sea-sickness, or when mounted in a swing, or on a roundabout.

Causes.—The causes of vomiting have been mentioned when speaking of the pathology.

Symptoms.—Vomiting is a symptom of some disordered condition, either within the organ itself, or elsewhere.

Treatment.—The treatment of vomiting will depend upon the cause. Weakness, extreme sensitiveness, if the result of idiosyncracy, must be met by avoiding what the stomach will not tolerate. Irritability must be soothed generally as well as locally, the system, which is usually weak, being built up at the same time. Nature, or an emetic, will cure the over-taxation; and sympathetic vomiting must be dealt with by treating, wherever possible, the organ that roused the sympathy. Soothing remedies are often of great value, but the stomach may not always tolerate them. In such cases hypodermic injections or enemata will usually answer the purpose very effectually. A lady in India was sinking from sympathetic vomiting in connection with menorrhagia. Nothing would stay on her stomach
until the system had been brought under the influence of opium administered by the rectum.

In all cases where there is a tendency to vomit, both the quantity and quality of the food must be carefully regulated. Many a case may be cured by simply attending to these two points, without having recourse to other remedial measures. The great object is to rest the stomach, and, when it must exert itself, to give it the minimum of work. Even the single teaspoonful of milk, whose value was demonstrated in Dr. William Hunter’s case (see Watson’s “Practice of Medicine”) must not be thought slightingly of. For the vomiting in pregnancy there is nothing better than hot coffee, occasional mild laxatives, patience, and time. For sea-sickness the recumbent position in a swinging cot, whereby the balance remains undisturbed, with hot coffee for drink—it maintains its effects for a few hours as testified to by the pedestrian Weston—are the best preventives. Alcohol, when resorted to for vomiting, often increases the distress; and, when it acts as intended, the temporary relief may give place to a subsequent aggravation of the symptom.

SARCINA VENTRICULI.

Pathology.—Owing to the detention of food in the stomach, caused by some structural disease that prevents or hinders its being passed on through the pylorus, or by inefficiency of this opening, fermentation sometimes occurs. It is believed that a secretion is generated from the coats of the stomach and, mixing with the food, sets up the fermenting process, during which the sarcinae are developed in the same way that the yeast torulae are formed during the fermentation of the juice of the grape. These sarcinae are microscopical, flat, fungoid bodies, stowed away in multitudes into little packets crossed, and recrossed as it were, with a string.

Symptoms.—Usually there is copious vomiting—often in the morning succeeding a sense of fulness and heat in the epigastrium during the preceding night—of sour smelling fluids which, after standing from two to four hours or more, become covered with a froth resembling yeast from which a brownish sediment is deposited. Both in the deposit and in the froth, as also in the alvine excreta, the sarcinae are found, provided the fluids be acid. If otherwise they are not visible. Heartburn and flatulence, caused by the development of acetic acid, are often distressing accompaniments of pyrosis.

Treatment.—Antiseptic remedies are clearly indicated, preventing as they do the process of acetous fermentation. The best is the sulphite of soda, which is readily decomposed in the stomach, the antiseptic agent, sulphurous acid, being set free. It should
Dyspepsia.

be given in 30-grain doses—increased if necessary to 60 grains—in a little water soon after a meal. In some of the milder cases a drop of creosote with a few grains of common salt may be taken with each meal. Alcohol is quite useless.

**FLATULENCE.**

Wind in the stomach and bowels is one of the commonest forms of indigestion for which the physician is required to prescribe; and, distressing though it be, he often obtains great credit, as well as the gratitude of the patient, when he is able to assure the latter that it is only wind. For the pain is sometimes so intense that the sufferer is apt to conclude that he is attacked with inflammation, or something even worse.

Pathology.—Wind in the stomach may be generated at irregular intervals after eating, or when the stomach is empty. In the former case the condition that gives rise to it is rarely confined to this organ. Gas is usually developed in the alimentary canal also, giving rise often to great distension and uneasiness. It may be the result of undue detention of food in the stomach, when fermentation or putrefactive changes are apt to take place. In most cases, where the organ is otherwise healthy, the stomach is weak, and the food is not acted upon, owing either to a deficiency of gastric juice or of muscular vigour, dependent upon nervous debility. This want of tone often co-exists in both the small and large intestines, and is especially pronounced in the colon, wind in the transverse portion of which being frequently mistaken for flatus in the stomach itself. Where the gas comes from when the stomach is empty is not very well understood. It is a question whether it is not then secreted from the organ itself.

Causes.—When the stomach is weak, certain articles of diet are almost sure to cause flatulence. The patient soon discovers from experience what these articles are. I know a gentleman—a total abstainer—who almost invariably suffers if he takes hot coffee instead of water, aërated or plain, at dinner, or if he has an extra cup of the same drink at breakfast, or of tea in the evening. In such stomachs warm fluids should be taken sparingly. So many causes may give rise to flatulence that each case must be carefully studied and treated on its own merits.

Symptoms.—The two principal symptoms that indicate the presence of gas in the stomach or bowels are its extrication upwards or downwards; and pain more or less severe. The former is a source of annoyance mostly to others; the latter, to one’s self. Eructations—oddly enough considered, amongst Hindoos, as a mark of good breeding in a well dined and grateful guest—are often odourless, though sometimes they are indicative
of putrefaction in the food within the stomach. However disagreeable socially, medically gas should always be allowed a free exit; for, otherwise, not only does it cause varying degrees of pain—often very severe—in whatever part of the alimentary canal it may temporarily lodge, but it may find its way into different parts of the body, and give rise to discomfort there.

Treatment.—As in all cases of indigestion appropriate dieting, with but little liquid, will be the most effective remedy; and the colder the food is taken the better. Dyspeptics, unless confirmed valetudinarians, are, however, rarely prudent. They, as a rule, eat too much, too quickly, and at irregular intervals; and they are apt, owing often to the exigencies of business in an age when all are working at high pressure, to let the stomach remain empty for a prolonged period. Abernethy’s rule was in the main suitable for persons in good health, viz., to allow from three to five hours for the digestion of a meal, and one hour over for rest; thus making six hours the ordinary interval between them. But there are few in civilised communities—in large towns especially—who can remain so long without food. A gentleman of my acquaintance, never, through a long life, took anything between his breakfast, which was over at 8 a.m., and his dinner, at 7 p.m., and at ninety years of age he was a splendid specimen of the mens sana in corpore sano. He had been a great traveller, and wherever he went he never deviated from this plan, even in the coldest and—for people generally—the most appetising weather. But such a practice would suit very few. The digestion in advanced life is more rapid than in youth, and food must be more frequently taken. As, in flatulent dyspepsia, the stomach is usually weak, quinine (where admissible), nux vomica, and nitro-hydrochloric acid are very serviceable. Costiveness is often associated with flatulence, and, in these cases, following the advice of my old teacher, Sir Thomas Watson, I have often gained great credit by prescribing a dinner pill consisting of the pil. rhei. co. and cayenne pepper; but, where the bowels were free, I have found great benefit from one grain of the latter, with half a grain of opium, taken with the meal after which the flatulence was most distressing, prescribing a mild aperient occasionally, according to requirements. It is in this form of indigestion that alcoholic nips are so popular. They “keep the wind out of the stomach,” or disperse its accumulations elsewhere, it is said. Doubtless they may; but if had recourse to habitually they injure—by depressing the nervous influence—the tone of the stomach and intestinal canal.

PAIN.

Pathology.—The pathological conditions that cause pain in the stomach range from acute inflammation, ulceration, or malig-
Dyspepsia.

nant disease, in all of which the structure of the viscus is more or less seriously affected, to abnormal states where, though the pain may sometimes be equally severe, there is (except occasionally slight congestion) no structural change whatever. The nature and character of the pain are not always commensurate with the extent of the trouble that gives rise to it. Pain is usually a prominent symptom in the three conditions first mentioned, but not always so; nay, in the two last it is sometimes absent altogether. Ulceration, running a very rapid course, is occasionally met with in young single women who have only complained of slight indigestion. So in cancer, from first to last there may, in some cases, have been no pain whatever. In cases, on the other hand, where there is no absolute lesion but extreme sensibility in a highly nervous temperament, the pain may be considerable, and convey the idea of structural mischief. A clergyman of slight build and with this temperament came at one of the hydropathic establishments in Malvern, in 1879, under my observation, having, it was said, one or more ulcers in the stomach. But I found that he had suffered from the same pain for many years previously, and that it was not persistent, its existence depending very much upon his own imprudence in eating salted food, of which he was very fond, but which always disagreed with him. He was somewhat benefited by the hydropathic treatment; but I ascertained, a year or so subsequently, that he was much in the same state. Overwork, or mental anxiety, added doubtless to his own negligence, brought on the pain after eating. Chronic ulceration may, indeed, be characterised by the same train of symptoms; and it is not always easy to make a correct diagnosis, but the character and time of advent of the pain is a useful guide. Pain in chronic ulceration would be independent of food, though aggravated by it. In a thin subject, like the patient in question, pressure would detect the lesion. Mere congestion, in a highly sensitive person, might convey the idea of acute inflammation with ulceration, as I have observed more than once. In health the introduction of food into the stomach is a natural process, and should cause no uneasiness; but in opium eaters, from whom the drug has been withdrawn, the whole mucous membrane is at first terribly sensitive. The stomach seems during digestion to be on fire. The deadening effect of the opium being withdrawn the digestive process, as the great opium eater De Quincy has shrewdly suggested, is (morbidly) felt. A relaxed state of the mucous membrane, as associated with nervous atony of the organ, sometimes give rise to peculiar forms of uneasiness after eating. I know a gentleman in India who suffered in this way in the hot weather (the most annoying symptoms being relaxation of the uvula and a sensation as if a crab was crawling about in his
Dyspepsia.

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stomach). Congestion of the stomach, however slight, will, in persons with tender skins (of which the mucous membrane is an inner duplicate and doubtless endowed, in these cases, with a corresponding sensibility) give rise to pain quite disproportionate to the pathological condition. Catarrh in the stomach, which may run a course similar to that of a cold in the head—apt, however, to be more prolonged owing to the dietetic imprudence—also gives rise to varying degrees of uneasiness. Owing to its very extended sympathy there may be pain in the stomach in consequence of irritation or other morbid conditions elsewhere, and vice versa. Pain in distant parts may be due to something wrong in the stomach. As a cantharides blister will, in some constitutions, cause severe strangury of the bladder, so may arsenic, hypodermically introduced, cause an attack of gastritis. The pain from mere flatulence is sometimes so agonising that serious mischief is suspected. This is especially the case when the wind is in the transverse colon.

Spasm, or cramp, in the stomach is met with in very nervous temperaments. I know a lady, with highly-strung nerves, who is constantly complaining of this symptom. At various times, during the past few years, she has suffered from severe anomalous pains—all apparently indicative of congestion, or inflammatory action, but really nervous—in different parts of the body: and she had, eight years ago, a typical attack of lichendria from the same cause. The stomach, in cases of spasm, seems as if tied into a painful knot.

Gastrodynia, properly so called, is essentially a neuralgic attack. The pain is often excruciating, causing the poor victim to long for death to put an end to his sufferings. The Frenchman’s description of rheumatism and gout might be applied to gastrodynia: Put your great toe into a vice and screw it as tight as you can—that’s rheumatism: give it one screw more, and you have gout. So may the extra screw convert spasm of the stomach into neuralgia. The pain in this disorder is usually periodic.

Causes.—The causes of the various kinds of pain may be constitutional, i.e., due to blood disease, or local, the result of dietetic errors, or accident, or malice.

Symptoms.—The character of the pain will depend upon the tissue affected, and the temperament; being infinitely keener in the nervous and sensitive. In forming a diagnosis this last point must not be overlooked. The history of the case, and the habits of the patient, will throw some light upon it. From the burning and boring sensations, produced by an ulcer, to simple uneasiness after eating, there may be a great variety in the degrees of pain. This symptom alone must never be depended upon as a guide, it being often fallacious and misleading.
Dyspepsia.

Treatment.—The treatment of pain in the stomach will depend on concomitant circumstances. Alcohol may deaden it for a time; but, as a rule, it will soon return—too probably in an aggravated degree.

Costiveness is one of the most frequent, whilst it is also one of the most neglected, causes of indigestion. It is obvious that if a mass of excrementitious matter, intended for removal from the body, be retained in it, consequences injurious to the latter must follow. Headache (with loss of appetite, a furred tongue, and a feeling of lassitude) is one of the most frequent results of costiveness,—being caused, partly by sympathy, and partly by the circulation in the train of—to speak plainly—liquid sewage. Fœcal matter, long retained in the lower bowel, may become hardened and lead to important errors in diagnosis. I was once hurriedly summoned to see the wife of the commanding officer of the regiment with which I was then serving. “Come at once,” he wrote, “and bring your lancet”—it was thirty years ago—“my wife has got a violent attack of inflammation of the liver. I send my carriage for you.” I went immediately, but, knowing the lady’s sedentary habits, I took an enema apparatus, with the materials for a strong turpentine injection, but no lancet, of course. It was as I surmised. The patient had had no relief from the bowels for ten days, and was in great pain over the whole abdomen, but especially along the course of the ascending colon. The injection, administered whilst she was in a warm bath, brought away a quantity of saybala, and the relief was immediate and complete. Flatulence and colic are not uncommon consequences of costiveness, and impacted feces have not unfrequently been mistaken for abdominal tumours or even for a gravid uterus!

Treatment.—The tendency to costiveness is best prevented by diet and regimen. Medicine, as castor oil and other purgatives, too often increases, when its effect is over, the morbid condition upon which the want of proper peristaltic action depends. Most persons are relieved every day after breakfast: some few retire for the purpose in the early morning; others at night. Whatever the hour it should never be passed over. The habit once broken into, irregularity may result, and daily relief is essential. A sense of modesty, and even laziness, restrains some people—women particularly—but these should be overcome. In India it is a common practice for the natives to stroll at early dawn into the open country or jungle some distance from home, carrying with them their small brass vessels containing water—a practice which ensures their being kept sound in wind and limb. As a nation they are exceedingly particular about this daily operation, which is greatly promoted by their diet. Pulse is the effective agent, and in this some Western nations might learn a useful
Dyspepsia.

lesson, and partake more freely of leguminous products; lentil soups, for example, or lentils cooked with rice, when fresh peas and beans, and such like, are not in season. Whatever promotes the peristaltic action is indicated. Such vegetables as are found to answer the purpose—for all do not in the same individual; whole-meal bread (not so-called brown bread, which is often only ordinary bread coloured with treacle); the daily bath—cold when bearable; a glass of cold water night or morning—a cup of hot tea is more effective with some; a wet compress—a dry one sometimes suffices; prunes, figs, fruits with pips, puddings made with currants or raisins, are amongst the articles of diet and remedial measures best suited for the purpose. With the single exception of beer which, in India, is credited with an aperient effect, all alcoholic beverages, decidedly favour costiveness; they are, therefore, especially contra-indicated in this condition. When they are taken to excess, however, they induce, by depressing the nervous influences, a tendency to diarrhoea. Where medicines are absolutely necessary, I believe there is nothing better than an aloetic pill combined with nux vomica. I strongly object to the habitual use of the enema, which, I believe, weakens the muscular coat of the bowel and makes its torpidity greater than ever. Some there are who say that a pipe of tobacco, or a cigar, if smoked after breakfast, will bring the required relief. Be it so, if inhaled for this especial purpose and success be the result, there can be no possible objection to the practice.

REMARKS.

As the integrity of the stomach's functions depends upon a healthy condition of the nerves that supply it, it is clear that whatever depresses them must be injurious to the organ; whatever tends to strengthen the nerves would be beneficial to it. Putting aside blood disease, poisons, accidents, and the effects of cold, it may be said that, in dyspepsia proper, whatever the symptoms—be they loss of appetite, nausea, vomiting, flatulence, pain of every degree, and even costiveness—loss of nervous energy is the fons et origo mali. Although, therefore, symptoms—as indicating a particular condition—must be treated in view to giving immediate or early relief, the cure will not, in most cases, be permanent unless a nervine tonic be added. My own practice for many years has been to give

Acid. nitro. hydroch. dil., m. viij.
Tinct. aurantii, m. xxx.
Aqua, 3 j.

a few minutes before each principal meal. In some cases I add m. x. of nux vomica, or m. v. of liquor strychniæ, with, occasionally, gr. iii. or gr. iv. of quinine. Phosphoric acid
answers better with many patients, and sulphuric acid with others. In all cases the principle is to provide a good supply of what corresponds to the gastric juice—for this reason the preparations of pepsine are so valuable—and to maintain the nervous energy. It is evident, therefore, that in every variety of indigestion, alcohol is contra-indicated and even pernicious. Let persons eat but moderately (varying the food as much as they will) and drink sparingly of the best of all beverages, viz., cold water, simple or aërated—there is a plentiful supply in the body, and, in the absence of any drain as free perspiration, in a tropical climate, more than what already exists in the food is not required—and the probability is that they will enjoy that most enviable of all earthly human conditions—a sound mind with a good digestion.

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**Society for the Study and Cure of Inebriety.**

**Instituted 25th February, 1884.**

**Officers 1884-5.**

**President.**

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RULES.

I.
This Society shall be called the "Society for the Study and Cure of Inebriety."

II.
Its object shall be to investigate the various causes of inebriety, and to educate the professional and public mind to a knowledge of these causes and to a recognition of the physical aspect of habitual intemperance.

III.
Qualified medical practitioners may be admitted members on payment of an annual subscription of not less than five shillings. Registered medical students and others interested in the work of the Association are eligible as Associates, but with no power of voting in the elections or taking part in the business of the Association, on the payment of the same annual subscription. Members and Associates shall be elected by the Council.

IV.
The Association shall be managed by a President, Vice-Presidents, Treasurers, Secretary, a Committee of not more than twelve, and two Auditors, all of whom shall be nominated and voted for in writing.

V.
Not more than six medical practitioners belonging to countries other than Britain may be nominated Honorary Members by the Council.

VI.
An Annual General Meeting and Ordinary Meetings for the reading of Papers, &c., shall be held at such times and in such places as the Council shall determine.

VII.
No alteration in the Constitution shall be made unless at a General Meeting, after one month's previous notice.

VIII.
Bye-Laws for the regulation of the Association shall be agreed to at a General Meeting.

INAUGURAL LUNCHEON.

On the invitation of the President and Council upwards of 180 ladies and gentlemen, more than half of whom were medical men, sat down to an inaugural luncheon on Friday, 25th April, in the large room of the Medical Society of London, in Chandos Street, Cavendish Square.

Among those present were:—Lord Shaftesbury; Lord and Lady Claud Hamilton; Sir Lyon Playfair, M.P.; Sir Spencer Wells, Bart., F.R.C.S.; Sir Edwin Saunders, F.R.C.S.; Sir Patrick Colquhoun, Q.C.; Dr. Cameron, M.P.; Dr. Farquharson, M.P.; Mr. F. D. Mocatta; Professor Cor-
field, M.D., F.C.S.; Professor Bernays, F.C.S.; Dr. Gervis, President of the Obstetrical Society; Dr. Duddenfield, President of the Society of Medical Officers of Health; Dr. C. J. Hare, President of the British Medical Association, Met. Cos. Branch; Dr. Orange, President of the Medico-Psychological Association; Dr. W. B. Carpenter, F.R.S.; Dr. J. S. Bristowe, F.R.S.; Dr. George Harley, F.R.S.; the Bishop of Ripon; Hon. and Rev. Canon Leigh; Rev. Canon Ellison; Rev. Canon Hopkins; Dr. Alfred Carpenter; Dr. Danford Thomas; Surgeons-General Walker and C. R. Francis; Surgeons-Major Evatt, G. K. Poole, Hensman, Sanderson, and Skeymuir; Mr. Oakley Hall (New York); Mr. Axel Gustafson, &c.

An elegant and sumptuous déjeuner was served by A. B. Marshall, of the Mortimer Street School of Cookery, the rich and tasteful display of flowers being specially remarkable for the exhibition of a newly imported Japanese fern.

After grace by the Bishop of Ripon, the toasts were honoured with un-in-toxicating wine, six varieties of which, imported from their native vineyards abroad by Mr. F. Wright, were described on the menu card, a charming design in blue and gold:

Muscat.—Pale pink colour, great body, sweet and luscious, from the Pyrénées Orientales.

Vesuvius.—Pale primrose colour, pleasant nutty and fruity flavour. From the slopes of Mount Vesuvius.

Madeira.—Rich red colour, fine aroma, moderate body, delicate agreeable flavour.

Alto Douro.—Pale red colour, much body, well-marked fruity flavour. When fermented yields the finest port. From the Alto Douro.

Bordeaux.—Deep red colour, considerable body, fruity aroma, pleasantly acid. Choice clarets produced from this.

Congress.—Rich ruby colour, much body, fruity aroma, pleasantly acid. Drunk by many with water instead of claret and water. From America.

Imported by Frank Wright, importer and maker of un-in-toxicating wines, 27, Merton Street, Kensington, W.

Table water: Apollinaris.

After the usual loyal toasts, Sir Spencer Wells proposed "The Houses of Parliament."

The Earl of Shaftesbury, with whose name the House of Lords had been coupled, said the House of Lords would be ready, when called upon to do so, to give those larger powers for the treatment of habitual drunkards which were so greatly needed. The movement for the cure of the intemperate had not yet sunk much into the hearts of the people. The expected sympathy had not been met with; but much reliance for this in the future must be placed upon the success which might actually be achieved in the present. People would come then to see that this was a great remedial movement, and went much further than the mere cure of inebriety. He (the noble Earl) had had some experience with inebriates. Only the other day he had had a conversation with some women, and he asked them if they found any great difficulty in giving up indulgence in strong drink. They said they found little or no difficulty. On the other hand he was afraid that a relapse led to very serious consequences. As one who had been on the Commission for Lunacy for fifty years, he hoped and believed that this Society would be led to study this question in its widest aspect. Let them get into the scientific causes of inebriety, and then some successful efforts might be made to stop it at its beginning. He thought that when full inquiry was made it would be found that the horrible localities in which people lived, the pestilential air which many of them breathed, and all the accursed circumstances of filth and misery which surrounded them, drove them often into courses which led to inebriety. The Commission to improve the dwellings of the people and the sanitation of their surroundings would go hand in hand with this great movement until he hoped that inebriety, instead of being a prevalent crime, would be the exception in this happy land.
Sir Lyon Playfair, M.P., in responding for the House of Commons, said he had the gratification of serving on the Dalrymple Committee, which led to the Habitual Drunkards Act as it now existed. The Committee overcame a great deal of hostility with regard to houses for the cure of intemperates, and produced a profound impression in the country as to the danger which arose from the neglect of the drunkard, and the disbelief in the possibility of his cure. He was glad to welcome into existence the present Society, the labours of which would tend to bring about a much needed improvement in the Act now on the Statute Book.

Dr. Farquharson, M.P., proposed "The Health of the Clergy of all Denominations."

The Rev. William Barker, M.A., in responding, expressed a hope that the day would come when all the clergy would be teetotallers.

The Rev. Dr. Donald Fraser also responded, and said "the clergy of all denominations" recognised fully that the drunk evil was impeding their work in all directions. The whole subject suggested most disastrous conditions of human life, and some of the most terrible calamities in families with which he had ever had to deal. He could not think or speak of it without a sense of pain; but there was an element of satisfaction in this—that they were forming a Society "for the study and cure of inebriety." He understood that the object—a most practical one—was to study the beginning of the disease as well as its cure, and, that being so, he would give it all the support he could.

Dr. Danford Thomas, coroner for Central Middlesex, proposed "Success to the Dalrymple Home." The home was opened in October last, and had been filled with patients ever since—not of the lower, but of the upper classes.

Dr. Cannon, in replying, had no doubt that before long they would be able to publish from the Home such successful results that Parliament would strengthen the legislation now existing.

The President proposed the toast of "The Society for the Study and Cure of Inebriety." He said that great interest had been taken in its formation by all classes of persons; and read letters from the Archbishop of Canterbury, Cardinal Manning, the Chief Rabbi, Mr. Wilson Barrett, Mr. J. L. Toole, Mr. S. Morley, M.P., Mr. Charles Gibbon, and others. Promises of work have been received from Professor McKendrick, Dr. Eastwood J.P., &c. Though the society had not been established two months there were already sixty-seven medical members, embracing gentlemen from the most distant parts of the kingdom. The society by no means deprecated the efforts of moral and religious reformers in coping with this evil, but the members felt that in order to assist their efforts it was necessary to know the physical causes, and once knowing the physical causes they would be in a better position to grapple with the evil. The society was the friend of every temperance movement and the enemy of none.

Dr. Alfred Carpenter proposed a toast with reference to the work that had been performed in America for the benefit of inebriety. When the society was established, which was largely instrumental in getting the present legislation for the treatment of habitual drunkards with which he was officially connected, he found great benefit from the literature upon the subject which had been published in the United States; far more, in fact, than that which was published here.

The Rev. G. K. Vibbert, of Boston, U.S.A., in responding, spoke at some length of the satisfactory results which had attended the treatment of inebriates in the United States.

Dr. Drysdale proposed "Literature, Art, and Science." He had been conversing during dinner with Dr. Joseph Smith, of the Dalrymple Home at Rickmansworth, who said that institution was filled with the better-class patients of all professions, and by keeping them from alcohol they led a happy life, instead of being a reproach to themselves and their families.
Dr. W. B. Carpenter said that all his life he had given close attention to this subject, and had studied it as a matter of science. He thought that this habit of excessive drinking, particularly in the upper class, must be regarded as inducing a physical condition properly called “disease.” He recognised, as the noble earl had said, all the bad effects of impure air and unsanitary homes, but in the higher class those conditions were wanting. Hence he recognised a state of constitution in individuals, in many instances the result of heredity, producing a physical craving for alcohol which must be regarded as disease. When they came to heredity, they must recognise transmission by material means; the germ must have been inherited in some physical way. There were cases in which to drown care or sorrow persons had taken to drink, and then the habit had fastened upon them. He was satisfied that the disease could only be cured by lengthened abstinence—abstinence long enough to re-create, as it were, the nervous system. The craving was created by the depravation of the nervous system, and it could only be restored by an abstinence sufficiently prolonged, as well as by healthy physical and moral influences, such as would produce a complete renovation of the nervous system. For this, from nine to eighteen months of abstinence, according to age, would be required.

Dr. Stanley Haynes, of Malvern, proposed “The Medical Societies.”

Dr. C. J. Harr, President of the Metropolitan Branch of the British Medical Association, responded, and said that: The Medical Society of London was 110 years of age, and the oldest body of the kind. As such it had great pleasure in opening its doors to the newest of its successors.

Dr. C. R. Francis proposed “The Temperance Organisations.”

The Rev. Canon Ellison, Chairman of the Church of England Temperance Society, in responding, dwelt upon the importance of preventive as well as rescue work, and said that in dealing with the physical causes of intemperance the new society could render material help. When an inquiry was proposed into the causes of intemperance, some abstainer said, “There is only one cause, and that is drink.” True, but many causes led to drink, and when these were known and analysed the information would be of immense service to the temperance cause. A society like this, for example, could tell why it was that female intemperance had so much increased of late years.

Surgeon-Major Poole proposed “The Visitors,” which was responded to by Lord Claud Hamilton, who concluded by submitting “The Health of the Chairman,” whose services to the cause of temperance he extolled, amidst the sympathetic applause of the meeting.

The President responded briefly, and the luncheon party then broke up.

THE PRESIDENT’S ADDRESS.

The President, after the luncheon, delivered his Inaugural Address. After explaining the need for the scientific study of inebriety, a work undertaken hitherto by no association in Britain, and expressing their indebtedness to various well-known American and Continental writers on Inebriety, Dr. Kerr frankly acknowledged the valuable aid derived from religious influences in many cases of inebriety; though physical agents acted on body and brain independently of morals, and religion, morality and faith might strengthen the resolve to abstain from such agents. He then proceeded to say:—

Yet, after the fullest allowance for the good done by the many praiseworthy efforts at the reformation of the intemperate, there remains a vast conourse of inebriates, a dense mass of inebriety, on which the most single-hearted and persistent Christian en-
deavour seems to make little or no impression, even as—

"On the impassive ice the lightning plays."

The mischief arising from this seething heap of excessive indulgence no human mind can fathom. The misery undergone by the victims themselves, culminating but too often in a terrible and prolonged death agony, what mortal tongue can tell? The lamentation and mourning and woe of the devotee to alcohol, his children, wife and friends, what mortal can conceive? But we may make an approximate calculation of the extent of some of the more concrete mischievous results in the shape of loss of property and of life. Intoxicating drinks probably cost us every year in the United Kingdom a direct and indirect loss of at least £200,000,000.

As regards life, it has been my duty to make special inquiry into the part which intemperance plays in the causation of premature mortality, and the lowest estimate which I could frame was that at least 40,000 persons died every year in the United Kingdom from personal intemperance, and probably double that number from poverty, accident, violence, or disease consequent on the intemperance of persons other than the slain. This estimate has been laid before several learned societies and, though it has been freely discussed, has never been seriously questioned, while it has been pronounced "moderate," and "under the truth," by well-known authorities on public health. It is not improbable that there are half a million of habitual drunkards in the United Kingdom.

Whence comes this nameless, this indescribable, this unfathomable load of inebriety? It does not like a destroying angel swoop down upon the earth from without and gather in its spoils of destruction and of woe in

"A bewildering mist of horror;"

whose desolating flight man has no power to hinder or to arrest. Neither does it, like the greedy longing for coveted gold by the miser, or like the envenomed whispers of the slanderer, proceed from the wickedness and deceitfulness of man's nature, or from the "evil heart of unbelief;" for the failing was comparatively unknown among millions of those whom we call "unbelievers," till our intercourse with them gradually introduced into their midst those habits of intoxication which Mohammedans and others had to acquire from our cultured and Christian civilization.

Inebriety is preventible. It is within the power of man to abolish it. Humanity need not, unless she choose, go on groaning under its intolerable burden of

"Bitterness, worse than death;
Sorrow, greater than pain;
Anguish, deeper than madness."

Nothing comes by chance. Fixed and immutable are the laws of life. Whence comes this inebriety? And under what conditions?

Inebriety is for the most part the issue of certain physical conditions, is an offspring of material parentage, is the natural product of a depraved, debilitated, or defective nervous organisation. Whatever else it may be, in a host of cases it is a true disease, as unmistakably a disease as is gout, or epilepsy, or insanity. In early times this fact seems to have been more clearly and fully recognised than in these latter days. Drunkenness, said Aristotle, is voluntary madness. Alas, in our time it is often a madness which is not always voluntary!

What is inebriety? We may define it as a diseased state of the brain and nervous centres, characterised by an irresistible impulse to indulge in intoxicating liquors or other narcotics for the relief which these afford, at any peril. This ungovernable, uncontrollable, overpowering impulse, may and does drive the ill-assorted dipsomaniac to his destruction, even when he has no relish for the toxic agent, but on the contrary loathes and detests it.

In such cases the power of self-control has been so weakened, and the desire to resort to intoxicants has become so ungovernable, that the abjectness of the bondage under which
the shiftless and helpless victims of
dipsomania groan is indeed most
piteous. Of those unhappy and hard
 driven serfs of strong drink it may be
deliberately said:

“For they all pined in bondage; body and
soul—bent
Before one power, to which supreme con-
trol
Over their will, by their own weakness
lent,
Made all its many names omnipotent.”

Under what conditions is this haras-
sing and baffling disease developed? Largely by heredity, either by an in-
herited tendency to excess once the fatal potion is sipped, or by a trans-
mitted taint or defect in the brain and
nervous centres. Many observers
attribute the majority of cases of dip-
somania to heredity. My own obser-
vation does not warrant such a con-
clusion, but I have no doubt that at
least 30 per cent. of bad cases of in-
briety owe their origin mainly to an
inherited alcoholic taint.

Though the existence of heredity in
disease is, by the philanthropic world,
frequently doubted, and still oftener
ignored, of the operation of this natu-
rnal law there is no doubt. Cancer,
gout, and a host of ailments more or
less serious, are constantly met with,
which clearly owe their origin to an
inherited diathesis. The diseases in-
duced by alcohol are handed down in
the same way. It is no uncommon
thing for me to meet with clearly-de-
dined cases of inherited alcoholic gout,
rheumatism, epilepsy, and other forms
of alcoholically-produced departures
from health.

Even when the inebriate parent
transmits no crave for alcohol, and no
abnormal state attributable to dege-
eration by alcohol, his progeny not
unseldom are stunted or defective,
with a highly sensitive nervous system,
less lack of mental balance, and a feeble
power of will. Mentally and physically
weak, the degenerate offspring are apt
either to succumb to the demands of
childhood, or to be cut off in manhood
from the extra call in acute illness for
that recuperative power which they
cannot spare.

The principal inherited cause is an
inebriate parent. In some cases both
parents have been addicted to drinking,
but in the majority of cases which I
have seen the fault has lain with the
father. In recent years I regret, how-
ever, to have to confess to having seen
a largely increasing proportion of ineb-
riety descend from the female parent.

Parental insanity accounts for a
small proportion of hereditary alcohol-
ism. Here I have not observed much
disparity between the sexes.

Not only is there hereditary trans-
mission of the drink crave itself, which
needs only the slightest sip to be
aroused in full force, but there are also
transmitted the pathological con-
ditions, the abnormal changes wrought
by alcoholic inebriety.

In certain constitutions a sudden
nervous shock has been the starting-
point on a rapid journey to inebriety.
A reverse of fortune, or the opposite—
an unexpected accession of wealth—
has been known to have launched
men and women right off on an in-
temperate career. Heavy losses in
business, the failure of a large specu-
lation, overwhelming sorrow consequ-
ent on sad bereavement (in one case
the loss of a whole family in one
week from scarlet fever), have been
among the many exciting causes
which have come under my own cogni-
zance. In several instances, cruel
disappointments in love have been
the occasion of the development of
drunken habits in refined and nervous
ladies, transforming the neat, elegant,
and attractive temperate one, into an
untidy, indecorous, lying, and repul-
sive dipsomaniac.

Inebriety from mental shock offers
a wide and inviting field of observation
to the scientific inquirer. Probably
the shock has induced some obscure
pathological disturbance by derang-
ing the functions of the nervous sys-
tem, setting up a cerebral or nervine
paralysis, or it may be an irritable
state of the brain which calls for an
intoxicant or other narcotic as a solace
for unbearable suffering.

Overwork is a fertile cause of in-

Society for the Study and Cure of Inebriety.

briety. When exhausted and worn out, the overtaxed thinker on taking a glass of fermented wine finds to his delight that his lethargy is gone, that he can read and write once more with ease, and he gladly returns to his favourite pursuit. The clergyman, the Christian worker, or the physician, after an exhaustuous day spent, O, how wearily! in listening to long dreary accounts of innumerable wrongs and ailments, imaginary and real, is so prostrate that he cannot even look at the food which his badly used stomach so sorely needs and plainly clamours for. An intoxicating stimulant in a few seconds dissipates every sense of fatigue, seems to infuse new vigour into his veins, new life into his fainting spirit, so that he can sit down comfortably, heartily enjoy a good dinner, plan and more extended work for the days which are to follow, and indulge in rosyate visions of a happy future.

"Had I a tongue in eloquence as rich
As is the colouring in fancy's loom,
"Twere all too poor to utter the least part
Of that enchantment."

Alas! the exhilaration, the enlivenment, the vigour, the enchantment, are but short-lived.

The effect, as a patient of my own, a maiden lady of some eighty-six years, who had long been bedridden, used to say, when her sister would insist on a glass of wine being taken, the effect is "false fire." There is but a transient blaze, a brief space of light and life and happiness, succeeded all too soon by darkness, languor, and wretchedness, by a heavier gloom, a deeper lethargy, and a more profound exhaustion than before. The deceptive stimulant has again to be resorted to, and oftener it is relied on the more frequently it is required.

Such has been the regular course of events in the march of not a few Christian ministers, religious workers, and medical practitioners, every step of whose downward progress it has been my painful duty to note.

In this high-pressure age of work and worry it cannot be denied that in not a few cases the inebriate habit has been insensibly acquired from an absence of amusement, recreation, change of occupation, social enjoyment, domestic happiness, or other useful stimulant to healthy exercise of brain and mind.

Injuries of various kinds, especially when affecting the brain, have been found to be an exciting cause. I have seen several cases myself, and Dr. Lewis Mason, in his valuable "Statistical Report of 600 Cases of Alcoholic Inebriety," treated at the Home at Fort Hamilton, N.Y., states that at least one in six of the cases of their inebriety from blows on the head. Different forms of disease have also acted similarly. I have succeeded in promoting the cure of several cases of dipsomania by attacking the disease, the irritation from which on the cerebro-spinal functions appeared to keep up the tendency to alcoholic indulgence.

In a large number of inebriates with whose history I have been professionally acquainted, various abnormal states of body or of mind have led to the drinking habit. Not a few have owed their ruin to dyspepsia. For the overpowering sinking, the nervous terror, and the ever-present fear of sudden death characterizing some forms of this Protean ailment, these martyrs to indigestion flew to alcohol, which they found for the moment alleviated their sufferings and calmed their perturbed spirits.

In other cases some obscure form of functional cerebral derangement following at one time enteric fever, at another time diphtheria, and sometimes different diseases, has been the point of departure from sobriety.

At times intoxicating remedies administered medicinally have, on the patient's recovery from acute illness, plunged him, and far too often her, into a career of inebriate excess. Though I can regard only with indignation the sweeping charges constantly brought against our profession of doing more by our medical prescription of intoxicants to promote drunkenness than any other agency, an accusation often falsely made by drunkards determined to throw the blame for their misdeeds on any shoulders...
but their own; yet it cannot be denied that lavish and incautious ordering of intoxicating stimulants has time and again given patients an alcoholic impetus which has been their moral undoing. The story is too sad to be told of the frank, noble-hearted, abstinent women, whom I have known to be launched on the turbulent and fatal sea of confirmed inebriety by the mistaken prescription of strong drink while nursing. This prescription has only sometimes been by the attending physician, and the stimulants have generally been resorted to by the advice of a nurse, or of a friend of the patient.

In many cases in which no special disease or injury is known to have played any part complications exist which tend to set up and protract the dipsomaniacal habit. Phthisis, syphilis, epilepsy, and an insane diathesis, all contribute to the inception and persistence of habitual drunkenness.

Sex exerts a potent influence, nerve storm in natural functions being an influential factor in the production of inebriety among females.

Though this has been disputed, I think that there can be little doubt that a pre-dominating factor has been the habit of drinking long continued. Whether the drinking has been "moderate," or "free," or "excessive," the habit has not necessarily been vicious. If there is a weak point in a man's mind, or a black speck in his moral nature, the disturbing influence of an intoxicant still further weakens the one, and intensifies the other, just as it aggravates a defect in his physical being.

Having glanced at the etiology of inebriety, and caught a faint glimmer of the truth, we are now in a position to consider the plan of treatment best fitted to effect a cure.

The first and most essential condition is that of complete abstinence from all intoxicating drinks. The dipsomaniac is suffering from poisoning, and it is indispensable that the poisoning action be stopped. He is physically and mentally sick, the sickness being maintained and kept alive by the imbibition of certain disturbing sickness-producing sub-
stances; and it is imperative that the use of the articles which have made the man sick be at once discontinued. Unconditional total abstinence is the only safe rule. No exceptions to this rule, social or ecclesiastical, can be permitted without serious risk. The influence of intoxicating drink is primarily physical, and no moral or religious surroundings or conditions can prevent or alter the physical effects of intoxicating agents on the human brain and nervous system. From unacquaintance with this fact, reformed inebriates have been led back again to their former evil course of intemperance by tasting their intoxicating bane at communion. The drink crave may be starved out by long years of faithful abstinence, but, in a large proportion of cases, the constitutional susceptibility to the narcotic influence of intoxicating beverages remains latent, and while life is, many a rescued one dare not sip even the weakest forms of such drinks. If he did so, he could truly say:

"There is no dram of blood
That doth not quiver in me! The old flame
Throws out clear tokens of reviving fire."

This applies to alcohol administered medicinally; and the physician ought never knowingly to order an intoxicating remedy to any one who has ever been addicted to drink.

The next point is to go behind the alcoholic habit, and ascertain what has been the departure from mental or bodily health which has led to indulgence in a stimulating narcotic.

By abstinence from strong drink the dipsomaniac may be cured for a time, but if the treatment go no further, and if the abnormal condition of body or of brain which incited a resort to alcohol be allowed to remain, the probability is that the reformed inebriate will ere long return to his former drinking habits, and his latter state be worse than his former.

One case will illustrate what I

mean. An inebriate patient of mine, a tall, strong, well-built man, aged forty-six, had suffered from heat-apoplexy in India, and was so affected by the heat in London that in two different summers he became insane from drinking, and had to be put under restraint for a couple of months at a time. He succeeded at length in keeping free at once from drink and from an insane outbreak by adopting the plan of, during the hot season, restricting himself to a plain, non-heating diet, by adopting suitable clothing, and by wearing headgear which kept his head cool.

In other cases where I have found specific disease to be the ultimate source of the habit of inebriation, as soon as the specific disease was got under, a renewed attempt at the abandonment of alcohol was successful.

Whatever the original abnormal diseased state, to secure relief from the pain or depression arising from which narcotics were flown to, that "fons et origo mali" should be explored and boldly attacked.

Another important indication in successful treatment is to enlist the inebriate himself in the work of cure. All the world cannot reform a drunkard against himself. To succeed we must carry him with us. This is easier than most persons suppose. The very general unfavourable result of efforts to enlist the dipsomaniac’s co-operation has for the most part been from the manner in which he has been lectured and abused, rebuked and looked down upon, and, in short, treated as a moral leper. Explain to him that he is suffering from a physical disease, like a man afflicted with rheumatism or sciatica, and that his hope of permanent cure lies mainly in recognising his physical susceptibility to the action of a poisonous narcotic material agent, and you intelligently appeal to his reason. Even when that faculty seems to have all but gone through alcoholic excesses, you will at times find that the reasonableness of this physical presentation of his case will awake dormant powers of thought undreamt of or believed to be non-existent.

Once alive to the fact that his giving way to drink is the effect of physical causes (generally remediable if discoverable), and his consciousness of being able to assist in the removal of these physical causes of his besetting weakness may tend to stimulate and encourage him to renewed and persistent endeavour to effect a cure. In many cases, especially of the periodic type, if the premonitory symptoms of malaise are promptly and effectively treated an alcoholic paroxysm may be averted.

The next indication is to place the inebriate in circumstances favourable to cure. The first step is to break the continuity of the drinking habit, and then get him away from the drink for a longer or shorter period. How is this to be done? If he has sufficient strength of mind, or if his will power be not too weakened, he may, notwithstanding the incessant temptations to drink on every hand and the atmosphere of alcohol in which he has to live, stand firm in abstinence. But there are multitudes whose morale has been so deteriorated, whose will has become so paralysed, that they are quite unable to resist the allurements of social custom or the strong public enticements so profusely provided by our present indefensible licensing system. For such there is but one human hope—seclusion in some Home, or on some long sea voyage, where the presence of intoxicating drink is not allowed, and where appropriate therapeutic and hygienic treatment may be applied.

There has been a degeneration of brain tissue, and time must be given for a new and ample supply of healthy brain and nerve substance. In all probability, though this is one of those intricate questions calling for the long and close observation and study of such a society as ours, as in other diseases involving degeneration, the longer the period during which this process has been going on, the longer will be the time needed for the repair and reproduction of normal structure.

Hence there has been a fair amount
of success in the treatment of inebriety in Asylums for the Inebriate in America and elsewhere; and hence the remarkable success, so far as that can possibly yet be known, of that interesting and hopeful experiment, the Dalrymple Home at Rickmansworth, under the able superintendence of Mr. Joseph Smith, M.R.C.S., where at the present moment upwards of a dozen inebriates have voluntarily placed themselves under the compulsory detention clauses of the Habitual Drunkards Act and have surrendered their liberty, in six cases, for the full period permitted by law—namely, twelve months each, in the prospect of a permanent cure.

We have thus taken a bird’s-eye view of the causes and cure of inebriety. Many important collateral topics must remain unnoticed, but we may glance at two.

The relations of insanity to inebriety are a most interesting study. Having turned my attention somewhat in this direction, I can promise a rich reward for painstaking and accurate inquiry. There is, as we have seen, inebriety from the insanity of one or both parents, and even from the insanity of a generation further removed. Some members of a family, whether parental insanity or intemperance have been the source, may become inebriates, while other members of the same family may develop insanity altogether apart from personal drinking. In one instance, for example, a drunken father had six children, of whom two daughters became drunkards, one daughter and one son were idiots, one son was an epileptic, and the third son committed suicide while suffering from alcoholic mania. In another family circle with a drunken head, one girl was an imbecile, two girls were hysterical, one son died at thirty-four of alcoholic apoplexy, a second was an epileptic, and the third was an idiot. Idiocy is not at all uncommon in the families of inebriates.

What is an act of drunkenness but temporary insanity? The ancients must have thought so, for one of the meanings of the Sanskrit verb mad was “to get drunk,” and the Sanskrit noun mada signified (1) intoxication, (2) insanity. Aristotle called intoxication “voluntary madness.”

In almost every stage of alcoholic drinking there can be traced an insane element. Even many moderate drinkers are liable on some special occasion, when slightly transgressing their usual alcoholic limit, to be so affected as if habitually grave to be merry, if usually of a happy temperament to be melancholy, if generally modest and unassuming to be obtrusive and boastful. I have known excellent, well-living, high-souled men and women do sinful, wicked, criminal and foolish deeds when a little overcome by liquor. What are these but the acts of a person for the moment beside himself?

Then we see how many periodical inebriates, thoughtful, deliberate, and sagacious in their intervals of sobriety, are guilty of the most eccentric and extraordinary acts in their intemperate outbursts. Attempts to set something on fire (pyromania), attempts to steal (kleptomania), special delusion (monomania), with such ridiculous and insane performances as one always when drunk stealing a bible, another flat irons, a third a tub, a fourth an iron pot, a fifth an apron, a sixth destroying everything within reach, a seventh always insisting, even when he reached home at the dead of night, on what he never would allow when sober—the conducting of family worship to a roused and sleepy household. All these, and a thousand other escapades, what are they but fits of temporary insanity? Delusions are also observed in some cases. For example, I have had under my care a periodic drunkard, who, during the three days of his regular monthly alcoholic paroxysm, always insisted and evidently believed that he was the Pope of Rome, and that no one must contradict him, as he was infallible and his word was law. In another case, a lady whom I was summoned to attend for small-pox, was only drunk. In forty-eight hours she was once more of sound mind, and the dreaded
The relations of inebriety to medical jurisprudence are interesting and important. In alcoholic trance, with which habitual as well as periodic inebriates may be affected, acts may be performed of which the doer has no recollection on a return to consciousness. This opens up medico-legal questions which only exact observation can settle, problems of deep importance in the solution of which a clinical study of inebriety will materially aid.

The work of this association conflicts with that of no other institution. We are the friends of all good movements, and the enemies of none.

By all means use every moral and legislative effort in your power to mitigate and prevent intemperance and the prolific mischief flowing therefrom.

I have not attempted to dogmatize on disputed points as to whether inebriety is a sin, a vice, a crime, or a disease. In my humble judgment, it is sometimes all four, but oftener a disease than anything else, and, even when anything else, generally a disease as well. It seems to me that we are as yet too ignorant to venture on sharp definitions or dogmatic statements, and that the most reasonable position for us, as scientific inquirers, to take, with our present knowledge, is that, while the drinker who is either driven by an ungovernable impulse, or is pursued by a constant desire to fly to intoxicating liquors, is in a diseased state; in all indulgence in intoxicants there is a physical influence in operation, a physiological neurotic effect, the tendency of which is to create an appetite for more of the intoxicating agent.

By whatever name you designate it, I am persuaded that inebriety is mostly physical, and for the most part has a physical origin.

There can be no harm, but much good, in regarding inebriety as a disease, even if you look upon it also as a sin, a vice, or a crime. The habit of excessive drinking, whether habitual or periodical, has generally been found to have been first developed between the ages of fifteen and twenty-

Society for the Study and Cure of Inebriety.
five. Here is a noble field for preventive effort. Let the Bands of Hope train up the young in strict abstinence, and teach the true nature and influence of intoxicating drinks. Let the Senior Bands lay hold of these graduates in nephalism when they emerge from the juvenile associations. Let the adult societies thereafter take them by the hand and conduct them safely past the most dangerous period, all these bodies taking care to educate their members in the chemistry, physiology, and pathology of alcohol. You will thus do a grand work of prevention, by which you will not only save an enormous amount of human sorrow, but, in addition, as surely as the setting right of defective drainage will prevent an epidemic of enteric fever, so surely will you prevent the greater part of that fearful and sickening amount of inebriety, the best means for attempting the cure of which this society was founded to investigate. In alcoholism, as in all other diseases, prevention is, indeed, better than cure: and we cherish the hope that our study of the best method of cure will contribute something to our knowledge of the causes, and thus facilitate the discovery of the most effectual means of prevention.

I have been told that our Society can do no good. Well, at least we shall take care to do no harm; and if it so turn out (though I, for one, do not believe that honest work in the interests of science and of truth can ever be fruitless), our highest ambition will be gratified if by our failure the success of those who are to come after us will be assured. But we confidently believe that we will succeed in acquiring a more exact acquaintance with the phenomena, causation, and conditions of cure of inebriety, by engaging in the study of this intractable disease with the same strictly scientific method with which we enter upon the study of other forms of disease. We shall be satisfied if we succeed in impressing on the public mind that inebriates are not necessarily scoundrels—that to treat the dipsomaniac as a criminal is not to cure but to confirm his inebriety, not to reform him but to make him worse—that no reproach should be cast on the inebriate for surrendering his freedom in the hope of cure—that no slur should be attached to residence (voluntary or involuntary) in a Home for Inebriates any more than in a hospital or an asylum—that inebriety is the inevitable outcome of our dangerous social customs—of our halting unrighteous legislation—that the moral, social, political, economical, and spiritual mischiefs arising from intemperance are the result of the operation of natural law, of the physiological and pathological action of an inward narcotic poison on the brain and nervous centres of human beings endowed with a constitutional susceptibility to the action of this class of poisonous agents; and that it is the duty of those who are not so heavily handicapped in the race for temperance to employ every lawful means to aid and encourage their weaker brethren and sisters in a resolute, though always difficult, effort at amelioration, as it is the duty of the State to make permanent, while amending, the present temporary Act for promoting the reformation and cure of the habitual drunkard, and to supply adequate provision for the care and treatment of such needy diseased inebriates as, from their serious illness of body and mind, are unable to contribute to their own maintenance and support.

In an endeavour to inquire into the causes, and to arrive at the best mode of cure of our great national shortcoming, every intelligent truth-seeker can join. Members of a learned profession as we are, we invite the associated aid of all, irrespective of personal habits, callings, or opinions. This is an inquiry in which the makers, the distributers, and the users of strong drink may, with perfect propriety, unite with the moral suasionist, the teetotaler, and the prohibitionist.

This is a Society for the study and cure of inebriety. Our object is to investigate, by strictly scientific methods, the various causes, and to educate the professional and public mind to a knowledge of those causes,
and to a recognition of the physical aspect of habitual intemperance. Permitting no preconceived opinions to stand in the way of our research, allowing no foregone conclusions or sentiments to bias our judgment, we propose, without prejudice or passion, deliberately and persistently to pursue our modest inquiry, in the earnest hope and confident anticipation that in the solution of the dark and perplexing drink problem we, or our successors, may ere long be rewarded by a full, clear view of

"Truth unbroken and entire;
Truth in the system, the full orb; where
By truths enlightened and sustained, afford
An arch-like strong foundation, to support
The incumbent weight of absolute, complete
Conviction; here, the more we press, we stand
More firm."

THE FIRST GENERAL MEETING.

The first ordinary meeting of the Society was held in the rooms of the Medical Society of London, Chandos Street, on Tuesday, 10th June; the president, Dr. Norman Kerr, in the chair. A leading feature of the proceedings was an address by Dr. W. B. Carpenter, F.R.S., upon "The Causation, Physical and Moral, of Inebriety," which is unavoidably postponed till our next publication. A paper on "Inebriety and Volition," which is given elsewhere, was read by Mr. Axel Gustafson. Votes of thanks were passed to Dr. Carpenter and Mr. Gustafson, and a short discussion followed, in which Dr. Drysdale, Dr. Bridgewater, the Rev. G. K. Vibbert, and Mr. A. Oakey Hall took part; further debate being adjourned till Tuesday, 1st July.

MEDICAL OPINIONS UPON THE SOCIETY.

(British Medical Journal.)

The new Society for the Study and Cure of Inebriety was inaugurated by an able and temperate address from Dr. Norman Kerr. From it we gather that the object of the society is to study inebriety with a view rather to its cure than its prevention, and this apparently for two reasons, partly because organisations for prevention are already at work in considerable force, but chiefly because the relation between drunkenness and disease is fully recognised by the society, and because heredity is believed to be one of the most important factors in the causation; the habitual drunkard transmits a deteriorated organisation to his descendants in a vast number of cases, a nervous organisation in a peculiar condition of unstable equilibrium as regards alcohol, so that the alcohol habit is very easily set up. Drunkenness, said Aristotle is voluntary madness. "Alas," added Dr. Kerr, "in our time it is often a madness which is not always voluntary."

It is very right and proper to declaim against drunkenness as a vice or a crime, but it is necessary to recognise that it is also in the majority of cases a disease, and to study its pathology; this was the gist of the address, which advocated also that the proper treatment was complete and immediate withdrawal of alcohol, the patient remaining under control in bad cases, until the craving had entirely disappeared; with this was to be combined the treatment of any concomitant disease, such as dyspepsia, or nervous disease. The address, which will be published by Mr. Lewis, of Gower Street, will repay perusal.

(Medical Press and Circular.)

The President's address throughout was of a nature to appeal to the sympathies of everyone who possesses a desire to lessen as much as possible the vast evils arising from intemperance in our midst; and though evidently
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designed as an appeal to non-professional hearers, it did not fail also to impress those medical men who were present as a forcible and eloquent denunciation of drink indulgence, and as an argumentative apology for the creation of a society with the objects described. Of the prospects before the association thus floated into existence it would be premature as yet to speak. A good many members will doubtless enrol themselves at first; but inasmuch as solidity of work done rather than numerical magnitude of meetings must be the test by which it will be tried, there cannot yet be any just criterion of its future success. Such a society may do a very considerable amount of useful, though humble, work if it will consent to occupy the humble position of a handmaid as regards its greater cousins; and there is good reason for assuming that such a position will not be refused by it. Tending to a common end with kindred temperance societies also, its addition to their forces will strengthen the impression made on the national sin of drunkenness; and in every way the new association is a welcome one.

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MEETINGS, 1884-5.

In the Rooms of the Medical Society of London, II, Chandos Street, Cavendish Square, London, at four o'clock p.m.:—

1884.
July 1st. Adjourned Discussion on Inebriety. To be opened by Dr. Jabez Hogg.

1885.

Among the Associates already elected are the Bishop of Ripon; Hon. and Rev. Canon Leigh; Rev. Canon Ellison; Rev. Canon Duckworth; Earl Shaftesbury; Mr. S. Morley, M.P.; Sir Lyon Playfair, M.P.; Mr. W. J. Palmer, J.P.; Mr. John Taylor; Mr. Axel Gustafson; Dr. Andrew Wilson, F.R.S.E., Editor of Health; Mr. Oakey Hall; Mr. John Pair; Mr. F. Debenham; Mr. W. Debenham; Mr. H. Bonham-Carter; Mr. Tudor Trevor; Mr. F. D. Mocatta; Mr. John Medley; Mr. Joseph Peters; Mr. L. G. Beeforth; and Mr. Robert Rae.

Application for Membership or Associateship to be made to the President, 42, Grove Road, Regent’s Park, London, N.W.

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ALCOHOL IN NEUROTIC DISEASES.—In one of the Gulstonian lectures, on neurones of the viscera, delivered at the Royal College of Physicians on March 14, Dr. T. Clifford Allbutt, F.R.S., senior physician to the Leeds General Infirmary says:—"Alcohol I do not encourage in neurotics; that there is a little occasional help in it, I admit; but, on the whole, alcohol, drawing as it does upon the reserve fund which we wish to protect, is better away from persons who may learn to take it rather as a dram than as a small addition to meals; this error, in them, is a radical one."
British Medical Temperance Association.

President.
B. W. Richardson, M.A., M.D., LL.D., F.R.S., F.R.C.P.

Conditions of Membership.
Personal Abstinence from all intoxicating liquors as beverages. Every registered, or registrable, British medical practitioner is eligible.

Annual Subscription.
Not less than Five Shillings.

THE ANNUAL MEETING.

The Annual Meeting of the Association was held on Tuesday, May 27, at the residence of the President, Dr. Richardson, in Manchester Square.

Dr. Ridge, Honorary Secretary read the annual report as follows:

"It is with much satisfaction that the Council is able to report distinct progress. There can be little doubt that the practice of total abstinence is observed by a larger number of medical practitioners every year—a fact which corresponds with the increasing membership of our Association, but would be still more apparent if all such abstainers would enrol themselves with us. At the commencement of the year there were 274 Members and 19 Associates. During the year 32 new Members have been elected, of whom 6 were previously Associates, but have now received their diplomas. Three Members have withdrawn from the Association and three have been removed by death. There are, therefore, at the present time just 300 members, a net gain of 26. Of the 19 Associates 6 have become Members, and 2 have withdrawn: on the other hand 12 more have been added, making a total of 23—a net gain of four. The Council trusts that, by the cordial assistance of all the Members, there may be a still larger increase during the ensuing year.

"The Association has sustained a great loss by the deaths of one of the Vice-Presidents, Dr. Grindrod, and of the Treasurer, Dr. Scatcliff. The former was a medical champion of the cause in its early days and nobly assisted it for many years both by his voice and pen. The latter was also an abstainer of very old standing, and maintained a consistent testimony till the last. Besides these we have to regret the loss of another veteran, Dr. Radford, of Manchester.

"After the business of the last Annual General Meeting, the President, Dr. B. W. Richardson, delivered an address 'On the precise administration of Alcohol in Disease,' and another in November, on 'The present relation of the Profession to the Temperance Question.' At the latter meeting Dr. C. R. Drysdale read a paper on 'The Comparative Death-rates of Assured Absenters and Moderate Drinkers.' In February last, at the Quarterly General Meeting, the President and Honorary Secretary were appointed a Sub-committee to make observations on Mr. Weston during the last days of his great walk of 5,000 miles, and to report thereon.

"A resolution was also passed urging the desirability of making the rules for the admission of voluntary patients into inebriate asylums under the Habitual Drunkards Act less stringent by the abolition of compulsory appearance before magistrates, and desiring that power should be given to magistrates to commit habitual drunkards for a sufficient period to ensure their recovery. Copies of this resolution were sent to the Home Secretary and to the public press.

"At the same meeting the President
delivered an address on the Caustic Alcohols and their use in the treatment of naevus and body marks.

"In April, 1884, the Honorary Secretary visited Dublin, and, by the kind assistance of the Dublin Total Abstinence Society, met a good number of Irish practitioners and other gentlemen at a breakfast meeting which was presided over by Surgeon Croly. As a result of that meeting several new Members and Associates were enrolled, and it was also resolved to form an Irish Branch of the Association, holding meetings in Dublin. Dr. M'Dowel Cosgrave has been elected Honorary Secretary of this branch, and the Council greatly hopes that it will prove of much assistance to the Association and to the cause of temperance. That cause is in a position it never held before, and by persistent and earnest efforts now, we may expect results which would have seemed quite unlikely but a few years ago. The Council will do its best to direct the influence of the Association to that end."

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**BALANCE SHEET, 1883-84.**

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Examined, compared with Vouchers, and found correct,

May 24th, 1884.

The annual report having been adopted, a vote of thanks was moved to the auditors, Dr. Barlow and Mr. Coryn, who were re-elected.

The office-bearers for the ensuing year were then appointed, the President and Honorary Secretary being re-elected.

The President moved a cordial vote of thanks to the Honorary Secretary, Dr. Ridge, for his invaluable services to the Association; and a similar compliment having been paid to the President, on the motion of Dr. Norman Kerr, the business terminated, and the members then retired to enjoy the pleasures of the President’s conversazione, which was attended by a very large company of ladies and gentlemen, including many members of the Association. Excellent music and refreshments were provided by the genial host and hostess, and a pleasant evening was spent by the company. Some of the latest of the inventions which come to the aid of medical science were exhibited, among them Hughes’ auriphone, which, as its name indicates, is used for ascertaining the exact power of hearing possessed by a patient. There were also specimens of Leitner’s tubes for raising or lowering the temperature of the human body, of the stethoscope, of the dynanometer for measuring muscular power, and of an apparatus for extinguishing life in the lower animals without pain. These objects, as well as some rare Bibles and curious books on medical subjects, were inspected with much interest.
Drink and Overcrowding in London.

NEW MEMBERS.
Dr. G. N. Adams, Bourne.
Dr. A. C. Air, Norwood.
Dr. J. W. Boyce, Stillorgan.
Dr. O'C. Delahoyde, Dublin.
Dr. Eustace, Drumcundra.
Dr. F. B. Pullin, Peel.

NEW ASSOCIATES.
W. R. Abernethy, Esq., Dublin.
J. Arthur, Esq., Dublin.
A. Atock, Esq., Dublin.
W. Green, Esq., Dublin.
F. Harpur, Esq., Dublin.
H. S. Lunn, Esq., Dublin.

Enfield, June, 1884.

J. R. James Ridge, Hon. Sec.

miscellaneous Communications.

DRINK AND OVERCROWDING IN LONDON.*
By Harrison Branthwaite, Esq., F.R.C.S., Ed., Medical Officer of Health, Willesden.

The intimate connection between drink and overcrowding as causes leading to misery and degradation must be apparent to anyone who has given serious thought to the important subjects under consideration by this conference. The profligate expenditure of hard-earned wages in that which is proved beyond the possibility of doubt to be a non-necessity of life—whatever may be said for it as a luxury, which is beside the question—produces "poverty," and poverty leads to "overcrowding." Overcrowding, by its injurious effect upon health in depressing vital energy, increases the morbid craving to further indulge in that which produced the condition—a condition in which a man or woman loses all desire to improve their surroundings. In the consideration of this subject this fact, that drink is not a necessity, must not be lost sight of. If the use of drinks con-}

* Read at a conference of religious bodies on the occasion of the poor of London, held at the Memorial Hall, Farringdon Street, April 2, 1884.
and moral powers by indulgence in intoxicating drinks is satisfied with his condition, and so long as he continues the practice will put forth no effort for improvement. His home, wife, and children cease to arouse in him any feeling of love, and want of food for them does not affect him half so much as want of drink for himself. Let him cease the habit of taking that which has thus acted as a moral anæsthetic and the mist that has enveloped the moral landscape of his being is dispelled, a desire is awakened to rise in the social scale, to see his home more comfortable, his wife happier, and his children not only supplied with food and clothes but education as well.

That drink is the main cause of poverty is admitted by those who are best able to judge: I mean relieving officers and others connected with the administration of the Poor Law. On the 15th of March a conference of relieving officers was convened at Exeter Hall for the “purpose of considering the relation of intemperance to pauperism.” At that conference one of the Holborn officers said his opinion was that three-fourths of the pauperism they met with was directly traceable to drink; he only remembered one man on his books who was a total abstainer, and his requiring relief was due to loss of health. In answer to a question put to him, this officer further said that the people who asked relief were for the most part from the labouring classes. A Whitechapel officer said to attribute three-fourths of the pauperism to drink was a low estimate, and had it been put as high as nine-tenths he would have concurred. At Lambeth we are told by one who has had twenty-four years’ experience, that drink has utterly demoralised the people. From West Ham comes the testimony that the great factor of poverty is drink. Rotherhithe echoes the cry that there drink has done its worst, and one officer, who claimed to have an all-round experience of London, testified that the great cause of pauperism was drink. If more evidence were needed upon this point, an appeal to the Poor Law medical officers would supply testimony of an equally conclusive character. In my early professional life I held for seven years an appointment as medical officer to a large union in Lincolnshire, and I do not hesitate to say that 75 per cent. of the poverty and disease that came under my notice was directly traceable to this one cause. Mr. Marchant Williams, in his letters lately to the Times, says:—“Improvidence, want of employment, indolence, and intemperance are, doubtless, the main causes of poverty in this country.” I would suggest a slight alteration in the wording of that opinion, placing intemperance first as inducing improvidence leading to indolence, and resulting in want of employment.

This self-induced poverty is often pleaded as a reason for not educating children. What evidence do we get on this subject? A short time ago the National Temperance League convened a conference of “School Board visitors.” From these we learn that it is the children of drunkards, or those who, though they may not come under that class, yet spend a large proportion of their weekly wages in drink, that give them all the trouble. One visitor said it was the black spots where drunkenness prevailed that gave him his work, and he did not hesitate to say that as drink was the cause so temperance was the remedy. Another says, “The great difficulty in getting children to school is the fearful drink.” Another said, “I am not an abstainer. I work in a district where you could shake hands with each other out of the windows without descending to the pavement, and my experience is that when the drink is driven out of the house happiness enters, and the children are sent to school.” One of the superintendents of School Board visitors said that in nine cases out of ten where summonses were issued to appear before the magistrates it was found the trouble was all caused by the drinking habits of the parents. The school visitor in my own district (Willesden) tells me that he has never had a case where a total abstainer has pleaded inability
to pay school fees. All his difficulty arises with parents who drink. In one instance when the man and woman earned together 3s. a week, the man before the magistrates pleaded that he was unable to pay sixpence per week for the education of his children, although he admitted to the bench that drink for himself and wife cost eight shillings per week. Contrast this evidence with that coming from the Queen's Park and Shaftesbury Estates. The visitor in Queen's Park, an estate numbering over 2,300 houses without a public-house, said he had very little trouble in looking after the children's attendance at school. The number of men on the estate who might be called drunkards he could count on his fingers, and it was only amongst these he had experienced any difficulty. From the Shaftesbury Estate we have the same testimony: no public-houses and no difficulty in getting the children to school. Upon this evidence I claim to have established the first part of my proposition, that drink leads to poverty. The second part, viz., that poverty leads to overcrowding is as conclusively proved by evidence that cannot be disputed. Mr. Marchant Williams, whom I have before quoted, tells us that 60,000 families at least in London live in one room only, and that the rents in the most overcrowded parts are from one-third to one-fourth of the maximum wages earned.

This is a state of things disgraceful to a civilised community, and but for the drink curse it would not exist. Men spend more in beer every week than would pay for better accommodation, and if that is not to be had near their work, would also provide them with sufficient money to pay their railway fare to and from their work. I admit here that railway companies have not as yet offered facilities for the conveyance of workmen at a sufficiently early hour to enable them to reach their work, but that has in a great measure arisen from the fact that the numbers ready to avail themselves of such a service of trains have not warranted them in arranging for their despatch. This herding together of a large number of individuals in a space clearly incompatible with the maintenance of health is set down to poverty, to an inability to pay more rent, but that poverty is, I contend, in the main attributable to the indulgence in drink.

The danger to health arising from overcrowding cannot be over-estimated. Impure air is the disposing cause of many diseases, and if it does not in all cases produce actual organic mischief, it gives rise to serious functional derangements, the least of which are headache, impaired appetite, weakened digestion, and deranged secretions, all of which not only render a man unfit for his daily toil, but also increase the desire to still further indulge in that which is responsible for bringing him into the position he occupies. The loss of infant life which this overcrowding entails is appalling. The reports of medical officers of health are constantly referring to this subject. In my own district 36.43 per cent. of the whole births die under one year of age, and 24.4 per cent. under five years of age; and these deaths occur in those districts where poverty and overcrowding exist. So in the North Ward, which is open and occupied by the more respectable class, the death-rate of infants under one year of age is only 20.5 per thousand of population, but in the South Ward, where conditions exist detrimental to infant life the death-rate is increased to 6.82 per thousand. This loss would be much greater but for the instinct which leads children as soon as they can walk to get out of the overcrowded rooms and play in the streets. Here, if they do get into the gutters and spend their time in making mud pies, they at all events exchange an atmosphere loaded with impurities, organic and inorganic, for fresh air and sunshine. A sad case came under my observation a few days ago proving the whole of my position that drink leads to poverty and poverty to overcrowding. A young man, whose salary was over £300 a year, married a girl of seventeen, who very shortly manifested a tendency to indulge in
Drink and Overcrowding in London.

They occupied a genteel cottage which, for their position, was luxuriously furnished. The wife was allowed £4 a week for house expenses, a great proportion of which, it was afterwards proved, was spent in intoxicating drinks. Business engagements took the husband into the country for some months, and on his return he found his furniture sold, his home stripped and desolate. After eleven years of married life this pair have mutually agreed to separate, and to-day the man, wife, and four children are living and sleeping in one room. If this were an isolated case we might, whilst we deplore its existence, refuse to accept the conclusion arrived at, but, in my inspections as medical officer of health, case after case comes under my notice where similar results follow upon the same line of conduct.

Sanitary authorities find considerable difficulty in dealing with cases of overcrowding, inasmuch as the Acts are indefinite as to what really constitutes “overcrowding.” The 18th and 19th Vic., cap. 121, dated August 14, 1855, which applied to the whole of England, in Section 29, says:—

“Whenever the medical officer of health, if there be one; or if none, whenever two qualified medical practitioners, shall certify to the local authority that any house is so overcrowded as to be dangerous or prejudicial to the health of the inhabitants, and the inhabitants shall consist of more than one family, the local authority shall cause proceedings to be taken before the justices to abate such overcrowding, and the justices shall thereupon make such order as they may think fit, and the person permitting such overcrowding shall forfeit a sum not exceeding forty shillings.” The Sanitary Act 29 and 30 Vic., cap. 90, dated August, 1866, amended the law and described the word nuisance to include “Any house or part of a house so overcrowded as to be dangerous or prejudicial to the health of the inmates.” This, however, was generally held only to apply to cases where more than one family were the occupants of the house or part of a house—although the Court of Queen’s Bench in Rye (Guardians) v. Paine held that it could be abated when only one family constituted the overcrowding. To remove these doubts, the word “nuisances” in the Public Health Act, 1875, which did not apply to London, included, “Any house or part of a house so overcrowded as to be dangerous or injurious to the health of the inhabitants, whether or not members of the same family.” This, whilst it placed extra metropolitan districts on a better footing in dealing with overcrowding, still left metropolitan officers in doubt upon the question, and action to abate has not been taken because of a doubt as to the legality of such proceedings. Why this was not positively applied to London was a matter of surprise. One great objection to all the legislation upon this question is that no attempt is made to define what constitutes overcrowding, by fixing the number of cubic feet to be allowed for each inmate. So that the medical officer of health being of one opinion and the magistrate before whom the case is heard of another, it is difficult to obtain a conviction. The Society of Medical Officers of Health has made some suggested regulations upon this question that, if carried into effect, will do a great deal to remedy the evil. The suggestion with regard to space is as follows:—“The minimum space for each adult in any room in a registered house occupied only as a sitting-room, or occupied only as a bedroom, shall be not less than 300 cubic feet; and in any room occupied as a sitting-room and as a bedroom, not less than 350 cubic feet. Two children under twelve years of age to be counted as one adult.” At present thousands upon thousands are living in rooms containing a space far short of this standard.

What is the remedy? Abstinence from that which, having produced poverty, compels the living in an overcrowded state. I never have any difficulty in my inspections of fixing upon the rooms occupied by those who indulge in drink. In my district there are a large number of houses
originally built for the upper middle class. Failing to find tenants, these houses have been let off in tenements. Such houses, having been originally built for one family, are clearly unfit for the occupation of seven or eight families, as is often the case. It is here we find those who, by their drinking habits, are unable to pay for apartments with sufficient air space. After a day spent in such inspection, I cease to wonder at the "bitter cry," and wonder only how long Christian men and women will continue, by their example, to countenance the use of that which is not necessary to life, and as they sit sipping their sherry and port, preach about increased education, improved dwellings, and more stringent sanitary supervision, urging a crusade against every imaginable evil except that which, to my mind, is the greatest cause of poverty and degradation. In conclusion, let me say that I do not ignore other causes operating to produce the state of things around us which we all so much deplore, but, if the statement be true that I have quoted upon the authority of relieving officers with many years' experience in the administration of relief, that from three-fourths to nine-tenths of all pauperism is due to one cause, then I submit that it is the duty of Christians individually, and the Christian Church collectively, to devise some means to get rid of that great cause of the present "Condition of the Poor of London."

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INEBRIETY AND VOLITION.*

By AXEL GUSTAFSON, Author of "The Foundation of Death."

In the space of twenty minutes I can only attempt to consider one phase of inebriety—that of habitual tippling, not periodic drunkenness nor constant sottishness. And I wish to be understood as confining the word volition in the following remarks to the power of choice or restraint in thought or action which ordinarily characterises the life of people of purpose and conscience.

There is one point on which students of life are approaching agreement, that of the interdependence of body and mind, that the body is the organ of the mind, the means of communication being the nervous system—particularly the brain—the communications being sensations and thoughts. Therefore the nature of the sensations and thoughts, and the clearness and rapidity with which they are conceived, depend on the quality of the brain; and the accuracy and speed with which the brain can transmit the conception to its proper destination depends on the soundness of the nerves transmitting it, and the relative healthfulness of the tissue receiving the message decides the completeness of the execution of the order.

Briefly, then, only a sound body can perfectly serve the mind, and in the degree that the body, or any portion of it, is not sound, the manifestations of the mind are marred; and especially if the brain be diseased, the comparative soundness of all the rest of the body will not prevent the thoughts from being duly affected by the condition of the brain.

"Psychic phenomena go hand in hand with vital phenomena," says Lester F. Ward.* "Protoplasm is the physical basis of life. It is also the physical basis of mind, it constitutes the nerves. . . . A brain is to a

* A paper read before the Society for the Study and Cure of Inebriety, in the Rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., Tuesday, June 10, 1884.

* "Dynamic Sociology," New York, 1883.
lump of protoplasm what a high-pressure steam-engine is to a cloud of vapour." And Professor Alexander Bain (Practical Essays, London, 1884), exclaims:—"Instead of supposing that mind is something indefinite, elastic, inexhaustible, a sort of perpetual motion, or magician's bottle, all expenditure and no supply, we now find that every single throbbing sensation, every smart of pain, every purpose, thought, argument, imagination, must have its fixed quota of oxygen, carbon, and other materials combined and transformed in certain physical organs."

"We know," says Dr. Edward C. Mann, "we know that the cerebral cells are nourished by the proper and due supply of nutritive plasma from the blood, and that this is essential to healthy function; and, indeed, the ultimate condition of mind with which we are now acquainted consists in the true nutrition, growth, and renovation of the brain-cells. Dr. Baer, of Berlin, says that "The extremely delicately organised, very sensitive, and easily destroyed construction of the nerve and ganglion cells, presupposes, for the normal physiological function of this structure the complete integrity of this apparatus, not only anatomically but also physico-chemically. Every, even the smallest, inroad on the nutritive and formative processes produces here a reaction of incomparably graver significance and weightier results than on any other bodily tissue. No organ, excepting possibly the liver, suffers in chronic alcoholism so constant and so many lesions as the central nervous system."

The chief reason why alcohol especially harms the brain and principal nerve-centres is because the nerve tissue, like that of the rest of the body, is supplied through proper nutrition and assimilation, and as habitual tipping disorders digestion and degrades the blood, it follows that the nervous tissue cannot be perfectly renovated; and as the finest tissue is most vulnerable to alcohol—and nerve tissue is the finest—it follows that the nervous system, and in the degree of the fineness of its molecules and cells, must be injured by alcohol.

Physiologists and psychologists now generally concur also in the opinion that the delicacy or coarseness of the tissue and construction of the brain-matter determine the quality of its respective functions; and the fact that the more delicate the tissue the higher the function exercised by the brain-matter seems known by alcohol itself in its effect on mind manifestations—nerve-tissue, the finest of the bodily tissues, and the finest nerv f matter being, as just explained, peculiarly and pre-eminently the prey of alcohol—because the first principles to suffer confusion and paralysis from aspiration, faith, reverence, self-abnegation, love, modesty, patience, forbearance, and so on.

These highest faculties, which flower above and at the same time that they are nourished by the highest intellectual powers having been ravaged by alcohol, the intellectual powers themselves, of which volition is the highest, shrink, and shrivel, and sink to lower and lower levels, until such as have not fallen into abeyance act partly in accordance with and partly in submission to the lower and more animal functions of the mind; then the co-ordinating powers of voluntary action gradually succumb, and at last the outcome of the coarsest matters, the mere mechanical functions, yield also.

Thus it is seen that one of the most appalling facts of inebriety is that its worst work, and indubitably its worst consequences, are accomplished in the finest organisms. Among the ordinary masses of mankind nature has been forced by untoward circumstances and circumscribed opportunities to shield existence itself in her coarser materials, and in this broad field we rarely see the more startling, extraordinary evils resulting from the use.
of alcohol, the single great downfalls, the wrecks of minds whose active sanity are of such moment to the destiny of the race.

But we do here see that alcohol serves to paralyse the formation and arrest the development of higher mental and moral, and consequently finer nervous organisation, and thus acts to keep down the conception and practice of life. An example of this is afforded by the mental condition and attitude of the masses in any country under any form of government which imposes upon them what they deem to be false conditions and coercive terms of living. They do not formulate dignified and intelligent protests, or if they manage to do so much as this, they lack clear moral and intellectual discernment of the decried evil and its remedy, they fail to combine, to organise, to execute, lacking all that concentrates and sustains effort—in a word, they lack volition; hence, sporadic, fitful, abortive manifestations.

In inebriety the confusion and partial paralysis of the higher functions of aspiration and unselfishness is the rule, and the field of volition sinks to the plane of ambitious self-seeking, more or less concealed and refined or crude and brutal in its expressions, according to inherited tendencies, previous habits, dominant proclivities, and the quality and kind of alcohol ingested. Hence there is no basis for expecting moral effort or affectionate consideration from a person in this state; he has no volition in the matter. Inhumanitas ebriosa, in itself an abnormal condition, is none the less a natural product of inebriety. So also with ferocitas ebriosa, and when sobriety is restored, the sedio vivae is the protest of the outraged being to the impotent organism.

Habitual tippling makes this fallen and steadily falling mental and moral condition habitual, and the victim does not know how it is with him. For what is true of any habit—that if long persisted in, it will, by adapting body and mind to its recurrence and effects, become at last instinctive—is true of the alcoholic habit even in its early stages, because alcohol, in its peculiar power to dull the mind and drug its guardian attributes, can produce in a single indulgence a greater subjection of the volition than will result from many commissions of a non-intoxicating act, and therefore the will or the choice to drink, or even indifference, if only the alcohol is ingested, will more quickly perhaps than any other act become involuntary and compulsory.

Of course tobacco, chloral, opium, and licentiousness—all narcotising in their effects, and hence paralysers—are great auxiliaries to the evil force of alcohol, and, like it, are great destroyers of the power of volition, but consideration of them does not come within the scope of this paper.

Any keen observer really interested in this question will be sure to see, and that without going out of his way, how alcohol undermines the will, i.e., the power of sane decision and firm execution of that choice—the power by which chiefly we attain and maintain true manhood and womanhood, and how by this weakening of the will the character is unraveled in many subtle and intricate ways, stitch by stitch, until it retains neither form nor significance, and is but a limp thread trailed hither and thither by the fitful winds of temptation.

The degree in which alcohol undermines volition is of course greatly determined by the mental quality and temperament of the drinker, the extent to which he carries the habit, and the nature of other habits formed in connection with it, &c. In some instances so-called moderate drinking has palpably as totally undermined the will, while in others excessive drinking has not overcome this power. It is also to be carefully remembered that the effect of alcohol on volition has innumerable disguises, many of them successfully deceiving alike the victim and the spectator.

In some persons a once pure and virile volition—susceptible, as volition should be, to the at once enlightening and modifying influences of the aspirations of a sound and humane heart—is by the alcoholic habit gra-
dually transmuted into a peculiar stubbornness, combined with an absence of emotion and indifference to the emotions of others. Such a person at first and at last will be spoken of as a man of iron will, and the transition from the firmness of pure volition to the immobility of stolid selfishness, if felt, will not be understood; will be imagined to be an intensification of the will power.

It is a condition in reference to volition not unlike that which sometimes occurs in the physical organisation, when, after death, the form once bright with living energy having been consigned to decay, is by some unseen process turned to stone. "Could I be heard," said Charles Lamb, "I would cry out of the black depths to all those who have but set a foot in the perilous flood. Could the youth, to whom the flavour of his first wine is delicious as the opening scenes of life, or the entering upon some newly-discovered paradise, look into my desolation, and be made to understand what a dreary thing it is when a man shall feel himself going down a precipice with open eyes and a passive will to see his destruction, and have no power to stop it, and yet to feel it all the way emanating from himself; to perceive all goodness emptied out of him, and yet not to be able to forget a time when it was otherwise; to bear about the piteous spectacle of his own self-ruin:—could he see my fevered eye, feverish with last night’s drinking, and feverishly looking for the night’s repetition of the folly: could he feel the body of the dead out of which I cry hourly with feeble and feeble outcry to be delivered,—it were enough to make him dash the sparkling beverage to the earth in all the pride of its mantling temptation; to make him clasp his teeth, and not undo 'em.

To suffer wet damnation to run thro' em."

The following remarkable instance of the thralldom of drink, especially illustrating its power to keep down the once degraded will, is cited and vouched for by Dr. John Cheyne:—

A gentleman of birth and refined tastes, deservedly popular for his attractive qualities, became habitually intemperate. A dear friend wrote to him, "Your family are in the utmost distress on account of this unfortunate habit. They see that your business is neglected, your moral influence is gone, your health is ruined." To this he replied, "Your remarks are, indeed, too true, but I can no longer resist temptation. If a bottle of brandy stood on one hand and the pit of hell yawned on the other, and if I knew that I would be pushed in as surely as I took one more glass, I could not refrain... You are all very kind... I ought to be grateful... but spare yourselves the trouble of trying to reform me; the thing is now impossible."

While we do well to battle earnestly with the cause of such miseries and tragedies as these, they, in their turn, certainly point out the necessity, the humanity, of in the meantime founding and funding institutions like that of the Dalrymple Home, for the care and cure of the victims of drink, who need supervision and restraint just as much as do the inmates of lunatic asylums.

And, indeed, if the facilities for the restraint and care of inebriates until the cure of recovered self-respect and volition could be effected, bore any comparison to those provided for the insane, the decrease in the number of the latter would be perhaps the most telling practical comment ever made on the scope of the drink evil.

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**Alcohol in Asylums.**—The "Use of Alcohol in Asylums" is one of the special subjects selected for discussion in the Psychology section of the British Medical Association during the approaching meetings to be held in Belfast.
THE TEMPERANCE HOSPITAL.

The annual meeting of governors of the London Temperance Hospital was held on Tuesday evening, 27th May, in the Lower Room of Exeter Hall, under the presidency of Mr. Benjamin Whitworth, M.P.

The Rev. Dr. Dawson Burns summarised the report, which he said commenced with an epitome of the work done in the hospital during the ten and a half years of its establishment. It showed that upwards of 2,000 in-patients and 16,000 out-patients had been treated, and dwelt upon the growing favour with which the principles upon which the hospital had been established was being received by the public, and especially by the medical profession. It then drew attention to the fact that the board were able to announce the completion of the great scheme of the hospital. It was intended originally to make the hospital capable of receiving 100 in-patients, but the scheme had been so enlarged that when the new section was completed that section alone would contain seventy beds, and thus enable the hospital to receive 120 in-patients. The cost of the first portion built had been entirely subscribed, and the whole was freehold. The expense of the second portion had been partially met, but £8,000 was still wanted. A large mass of statistical information was given, including the medical report and a synopsis of cases. They intended soon to publish a pamphlet which would contain a summary of all the surgical and typhoid cases treated in the hospital from the beginning, together with other cases. They hoped in this way greatly to accelerate the time when the practice there would be the practice of the medical profession.

The financial statement was read by the Treasurer, and showed that the receipts had been £3,886 15s. 8d.; the building fund had brought forward £25,413 13s. 5d.; donations, £6,244 13s. 11d.; interest, £66 17s. 9d., and with other items, £31,725 5s. 1d. The endowment fund was £1,977 12s. 8d., which was invested, and the subscriptions to the endowment fund this year had been—from legacies and donations, £624 13s. 11d., and interest, £14 11d. 6d.

The Hon. Conrad A. Dillon moved the first resolution:—“That the progress of the London Temperance Hospital, and the continued success of the principle upon which it is established, afford cause for devout thankfulness, and encourage the expectation of yet greater benefit, both to medical science and the temperance reformation, from the extended operations of this national institution.” He was sure the meeting would have read with pleasure the statement in the first paragraph:—“The Board are glad to report that the in-patients for the year numbered 513—an increase on the previous year of 102, or 25 per cent. The out-patients were 3,333—an increase of 1,128, or 50 per cent.”

He congratulated the meeting on the progress of the institution in the estimation of the public. Of the in-patients there were two abstainers to three non-abstainers. The out-patients numbered four abstainers to three non-abstainers. The patients came from no fewer than twenty counties. This was a national institution, and thus had a national claim. It performed not only the duties of a temperance but a general hospital.

The Hon. and Rev. Canon Leigh, M.A., seconded the resolution, which was adopted.

Dr. James Edmunds said that the confidence of the medical staff was if possible greater than ever with regard to the general principle of the non-alcoholic treatment of disease. They did nottie the hands of the medical staff, who were responsible for the lives of the patients, but the administration of alcohol was left in their discretion. They had now had some 2,300 cases of such a serious kind as to need admission into the hospital, with
special treatment and special nursing, and during the whole of the ten and a half years the institution had been in operation only a very few ounces of alcohol had been used even experimentally as medicine. At the end of more than ten years' work they were entitled to say that the number of cases had been sufficiently large to justify the medical officers in calling attention, as they had done, to certain memoranda which were appended to the report. Amongst the fifty-three typhoid fever cases there had been five deaths, and when they looked at the post-mortem examinations that had been made, it was known to medical men that no administration of alcohol could have saved them. The cases of recovery had done extremely well. There was a mortality of rather less than one in ten. That mortality was smaller than the mortality in any other hospital in London during the period, and there had not been given to one of these cases a particle of alcohol either as diet or medicine, and yet a large number of them ought to have died according to the ordinary hypothesis. The house surgeon had taken out the whole of the surgical cases during the ten and a half years. There had been 542 of such gravity as to require admission into the hospital, and amongst these there had been 103 major surgical operations, among which there had been only three deaths.

Mr. Robert Sawyer moved the next resolution:—"That by the pending enlargement of the London Temperance Hospital, which will increase the accommodation for in-patients from 52 to 120 beds, a strong and cogent call is addressed to all the friends of the institution and the public generally, in order that by liberal contributions, annual and otherwise, the new wing may be opened free from debt, and the yearly increase be rendered commensurate with the augmented pecuniary liabilities that will arise, if the appliances of the hospital are to be utilised to the utmost possible extent."

The resolution was passed, and, after short addresses by Mr. Thomas Cash, Mr. C. Kegan Paul, and Mr. James Clark, the proceedings were brought to a close.

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BEER IN LUNATIC ASYLUMS.

The following is taken from the thirty-second report of the Derbyshire County Lunatic Asylum for the year 1883, by Dr. Murray Lindsay, superintend-ent physician:

"Upwards of twelve months' experience of the working of the arrangement for the discontinuance of beer to patients and staff has been attended with the most satisfactory results, and fully confirmed the views expressed in the report for 1882, on pages 23 to 25. There is nothing to be regretted in the change, and we have no wish to return to the previous system.

"By this change a considerable saving of about £410 per annum has been effected, after deducting the liberal money allowance paid to attendants and servants in place of beer, and extras to patients. This is so far satisfactory, but it should be deemed of secondary importance to the health and welfare of the patients who are and ought to be the primary consideration, and whose health has not suffered from the discontinuance of beer.

"The amount expended on alcoholic stimulants (wines, spirits, and porter) for the sick and others has also been diminished, without detriment to their health in my opinion, other nutritious articles of food, such as milk, beef-tea, eggs, &c., having been substituted with advantage in many infirm cases. The average cost of alcoholic stimulants has been reduced from 2d. per patient per week in the four years from 1868 to 1871, to 1d. in 1880; 1d. in 1881 and 1882; and 1d. in 1883, the maximum cost
of 24d, having been reached in 1863; whilst the death-rate has been slightly higher in the four years from 1868 to 1871 than in the last four years of diminished expenditure on alcoholic stimulants, and the number of patients was considerably higher during the last four years—362 at the close of 1868, and 433 at the close of 1883.

"From the foregoing it will be seen that the expenditure for alcoholic stimulants has been reduced to one-fourth of what it was.

"Notwithstanding the sneers and theories of a few writers in the lay and medical press, which have no effect in deterring committees of visiting justices and medical superintendents of asylums from taking a practical and common sense as well as humane view of this question, the discontinuance of the general use of beer in pauper asylums is gradually and surely gaining ground and extending, because it is considered unnecessary as a general article of ordinary diet and on account of other disadvantages.

"Oxford, Ipswich, and Bristol Asylums are some of the latest converts to the discontinuance of beer; and at the last new asylum recently opened, the large and important asylum for the county of Surrey, at Cane Hill, no beer is given to patients or staff, the committee of visiting justices, acting on the advice of their able medical officer, having decided at the opening of the asylum to exclude beer from the ordinary diet. It is also a significant fact, in whatever light it is viewed, that at another asylum in an adjoining county, the attendants are almost unanimous in preferring a money allowance or other substitute in place of beer, the application for such change coming from the attendants themselves; whilst at a second asylum in another adjoining county, ‘the staff generally have been given a money allowance in lieu of beer; which has been gratefully received and much appreciated,’ beer being at the same time given to patients as part of the ordinary diet.

"In the previous report for 1882, I remarked, 'In a few years it will probably be found that in the majority of English pauper asylums beer will not be given as an article of ordinary diet, the minority at present giving no beer will soon, I believe, be converted into a majority.' This prediction is likely to be fulfilled sooner than might have been expected.

"I have a list of twenty-nine English asylums (twenty-four county and five borough) in which beer is either partially or entirely discontinued or never given as an article of ordinary diet. This is very nearly half the total number of pauper asylums in England and Wales, the total number being sixty-three (fifty-two county and eleven borough), and it is very probable that a complete return up to the present date would show that the turning point has been reached, and that in the majority of pauper asylums beer is not generally given as an article of ordinary diet."

The following is an extract from the 19th Annual Report for 1883 of the Medical Superintendent (Dr. Spence) to the Committee of Visitors of the Staffordshire County Lunatic Asylum, Burntwood, near Lichfield:

"The expediency of substituting a money allowance in lieu of ale for the attendants and nurses has been brought prominently before your notice lately, and it may be of interest to place on record the information which I obtained on this subject from the superintendents of a large number of the county and borough asylums throughout England, in reply to queries which I caused to be forwarded to them. Sixty circulars were issued, and answers were in due course received to all. Considerable diversity of practice was shown; but, on the whole, the feeling appears to be strongly in favour of discontinuing ale as a ration for the staff; in several asylums where the returns showed that ale was still given, the superintendents informed me that it was in contemplation to abolish its use with very little further delay. I thought it would not be inopportune at the same time to ascertain how the patients fared in this particular.

"The following tabular statement
Notes and Extracts.

NATIONAL TEMPERANCE CONGRESS.
—One of the sections of the National Temperance Congress which has just been held at Liverpool, was devoted to the “Scientific Phases of Temperance,” under the presidency of Dr. B. W. Richardson, F.R.S., who delivered an able address. A valuable paper on “The Wise Physician’s attitude towards Alcohol,” was read by Dr. A. H. H. McMurtry, of Belfast; and one by Mr. A. G. Miller, F.R.C.S. Ed., entitled “Some Remarks on the Results of Intemperance from a Surgical point of view,” from which we hope to give extracts in our October number.

FOOD, WINE, AND DRUGS IN PARIS HOSPITALS.—The amount of food, wine, and drugs distributed in the Paris hospitals, is the subject of a good deal of discussion, both within and without the medical ranks. In February, the Director of the Assistance Publique addressed a circular to the physicians, surgeons, and apothecaries attached to the hospitals, in which he drew their attention to the excessive consumption of meat, wine, and drugs in the Paris hospitals. In 1855, 1,256 litres of alcohol were distributed among the different hospitals; in 1879, 41,699; in 1882, 77,753. In 1855, 200 litres of rum were sufficient; in 1850, 20,287; in 1882, 32,298. The quantity of Bordeaux consumed has increased from 13,000 to 103,000 litres. An equally great increase has occurred in the consumption of sugar, coffee, and milk. In the last report sent in by the Administration to the Conseil de Surveillance, there is entered for one bed, at the Tenon Hospital, every day during January 1883, as an extra, one kilo. 500 grammes of raw meat, two litres of milk, two eggs, one cutlet, and two litres of broth. In the same ward, another patient is credited with having consumed three kilos of raw meat, two litres of milk, two eggs, and a cutlet, daily. There are also instances of patients reported to have swallowed three kilos, of raw meat daily, from the 1st to the 16th of June; and daily during July, one litre of Baujuls, six litres of broth, ten eggs, &c.—British Medical Journal, June 7.

<table>
<thead>
<tr>
<th>Patients</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Beer allowed to all in 27 asylums</td>
<td>1</td>
</tr>
<tr>
<td>Beer, or a substitute, such as ale, tea, or coffee to all</td>
<td>9</td>
</tr>
<tr>
<td>Beer, or a substitute to workers only</td>
<td>14</td>
</tr>
<tr>
<td>Water only</td>
<td>10</td>
</tr>
</tbody>
</table>

There would seem to be a remarkable harmony of opinion among those in authority as to the happy influence exercised upon the patients in those asylums where the use of beer has been discontinued; but I have only heard the superintendents' side of the question, save on one occasion, when a rather different aspect of the case was presented to me by one of the inmates of an asylum which I had occasion to visit, and where the alteration in the diet was apparently not so much appreciated, nor acquiesced in with all the readiness and contentment spoken of. With the exception of the imbeciles and some of the grosser epileptics, all my patients have beer, and appear to be quite contented with the arrangement.