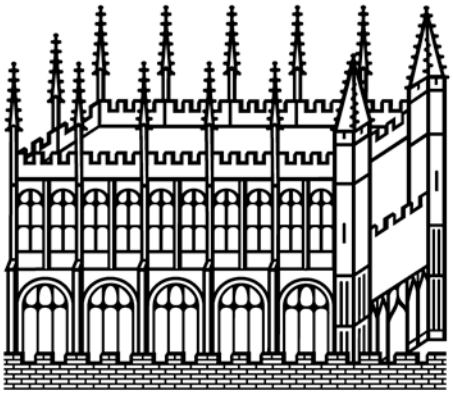


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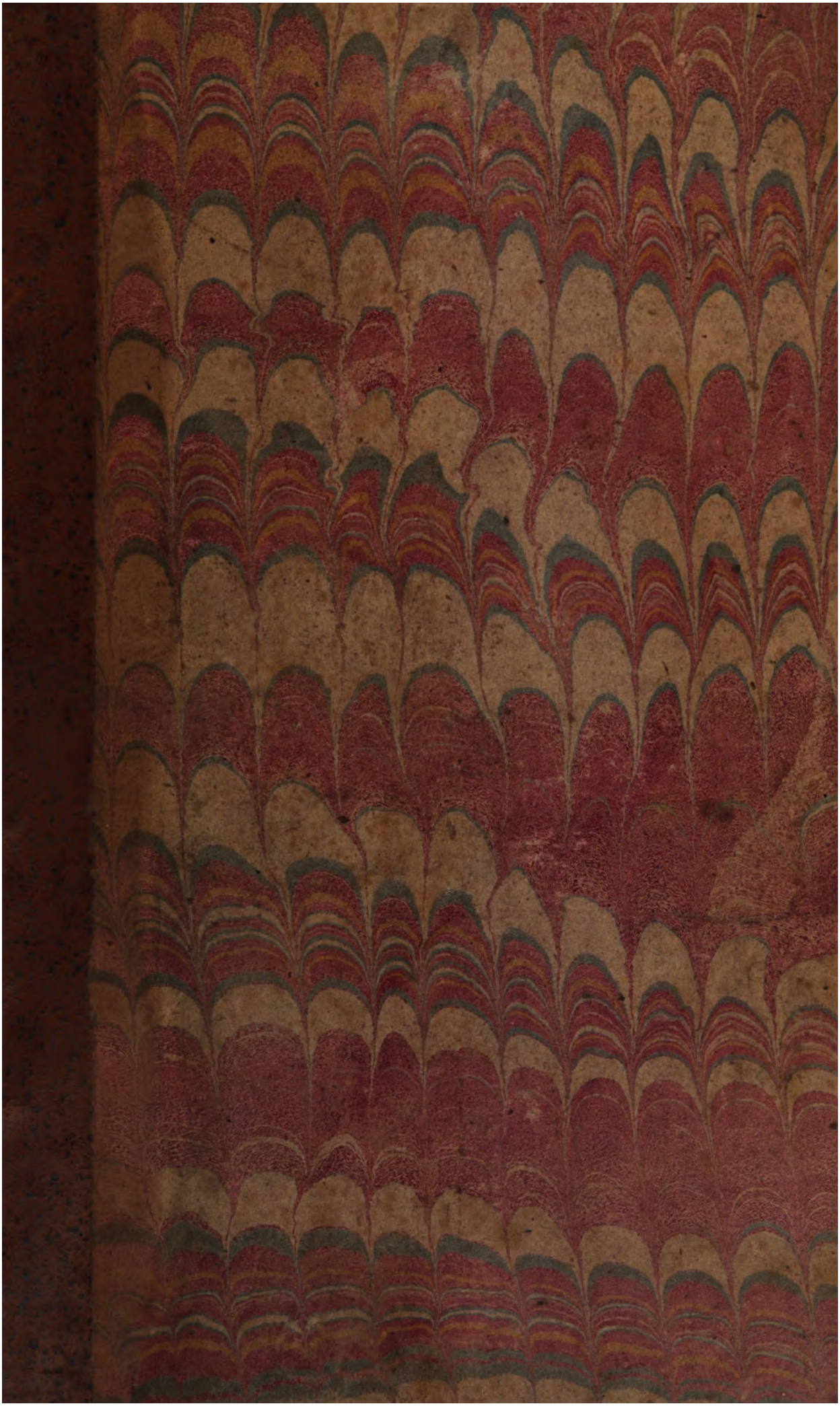
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MEDICAL COMMENTARIES

FOR THE YEAR M,DCC,LXXXIX.

EXHIBITING A CONCISE VIEW OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN MEDICINE AND MEDICAL PHILOSOPHY,

COLLECTED AND PUBLISHED BY

ANDREW DUNCAN, M.D.F.R.&A.S.ED.

PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES FOR SCOTLAND,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH,
AND MEMBER OF THE ROYAL SOCIETIES OF MEDICINE OF PARIS, COPENHAGEN, EDINBURGH, &c.

Neglecta reducit, ſparſa colligit, utilia ſelegit, neceſſaria oſtendit, ſic utile.
Baglivius.

DECADE SECOND.

VOL. IV.

EDINBURGH:

PRINTED FOR C. ELLIOT AND T. KAY, at Dr Cullen's Head, No 332, oppoſite Somerſet-Place, Strand, LONDON;
AND FOR C. ELLIOT, EDINBURGH.

M,DCC,XC.


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TO

Dr GEORGE PEARSON,

PHYSICIAN to ST GEORGE'S HOSPITAL, *London*,

AND

LECTURER on PHYSIC and CHEMISTRY;

In teſtimony of eſteem

For his meritorious exertions,

And in remembrance of former intimacy,

This Volume of

MEDICAL COMMENTARIES

is inſcribed,

By his ſincere friend,

ANDREW DUNCAN.

Vivit is qui ſe utitur: Qui vero latitant et torpent, ſic in domo ſunt, tanquam in conditivo.

SENECA.

PREFACE.

WE cannot preſent this Volume to the Public, without returning our ſincere and hearty thanks to thoſe ingenious Correſpondents who have favoured us with the original obſervations which it contains. To ſome of them, our Readers will obſerve, we have been indebted on former occaſions; and it will give us much ſatisfaction to be favoured with their future aſſiſtance. We are far, indeed, from aſſerting, that their obſervations are free from imperfections, or will eſcape criticiſm. This can hardly be expected at a period, when not a few critics ſeem much more diſpoſed to point out imaginary faults than real excellencies.

But we truſt that the candid Reader, who beſtows upon them a careful peruſal, with the view of acquiring uſeful information, will not be diſappointed.

In the preſent Volume, the ſection allotted to Medical News is extended to a greater length than in almoſt any former one. And it gives us much ſatisfaction to have been able to announce to the Public, ſome new practices lately introduced with ſucceſs, and many important publications, which will ſoon appear. It is very evident, that no exertion on our own part can furniſh to our Readers proper or authentic information, without ſome aſſiſtance from the Authors. But we cannot help thinking, that without anticipating any other intended publication, ſuch ſhort notices as are here given may ſerve both to excite a proper curioſity, and to prevent unintended miſrepreſentations.

Theſe

Theſe conſiderations, joined to a deſire for the advancement of the healing art, will, we truſt, ſecure to us the future aſſiſtance of learned and ingenious men: And, if it be in their power, they will add much to the obligation they confer upon us, by tranſmitting their communications at an early period. Theſe, as formerly, may be either ſent to Dr Duncan at Edinburgh, or addreſſed to the care of Meſſrs Elliot and Kay, bookſellers, oppoſite to Somerſet-place, Strand, London.

EDINBURGH,
Dec. 1. 1789.

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MEDI-

MEDICAL COMMENTARIES,

FOR THE YEAR 1789.

VOL. IV. DECADE II.

SECT. I.

Account of New Books.

I.

Obſervations Generales ſur les Hopitaux, ſuivies d'un projet d'Hopital. Par M. Iberti, *Docteur en Medécine. Avec des plans detaillés, redigés, et deſſinés, par* M. Delannoy, *Architecte et Ancien Penſionnaire du Roi, à Rome.* 8vo, A Paris.

THE conſtruction and management of hoſpitals, is a ſubject which, of late, has very much engaged the attention of moſt of the nations of Europe; and when the com-

parative mortality of different hoſpitals, under practitioners of equal ability, is conſidered, this will juſtly be concluded to be a matter of very great importance. The author of the treatiſe before us, a native of Italy, has, he tells us, travelled over different countries, and paid particular attention to the abuſes in the management of hoſpitals, and the eſſential faults in their conſtruction. His remarks, therefore, may naturally be ſuppoſed to afford uſeful information on this ſubject.

After ſome obſervations on the cauſes which have produced material defects in the hoſpitals of France, Dr Iberti obſerves, that amidſt other objects to which the diſcuſſions reſpecting the Hotel-Dieu have given place, it has been contended by ſome, that treatment at their own houſes is beſt calculated for the relief of the ſick poor. But, beſides many other inconveniences under which this treatment muſt on different occaſions labour, he obſerves, that in large cities, there are many who have not even any fixed reſidence; and that public hoſpitals are therefore abſolutely neceſſary. He conſiders it, however, as the wiſeſt and moſt uſeful plan, that private treatment

ment of the ſick poor ſhould be conjoined with hoſpital practice, or ſhould even precede it. By this happy combination, he obſerves, œconomy and humanity would be equally conſulted.

Rome, he tells us, has ſet the firſt example of ſuch private gratuitous practice, combined with public treatment: For, from time immemorial, that city has been divided into twelve diſtricts, to each of which a phyſician, ſurgeon, and apothecary are appropriated, for furniſhing gratuitous attendance and remedies to all thoſe families whoſe poverty is properly atteſted. This example, although not preciſely on the ſame footing, has been followed in England; and it has been adopted on a very improved plan at Madrid, under the auſpices of the miniſter of ſtate, the Count of Florida-Blanca. And in judging, he tells us, from the liſt publiſhed, of patients treated at their own houſes, for the year preceding the publication of his book, he thinks it almoſt impoſſible to conceive a plan of relieving this unfortunate claſs of people, more extenſively uſeful, or more œconomical.

But, while hoſpitals are eſſentially neceſſary for thoſe who have no fixed habitation, they afford alſo the moſt uſeful ſchools to ſtudents of medicine, for acquiring real knowledge. And, he obſerves, that nothing has contributed more to eſtabliſh the celebrity of the medical ſchool at Edinburgh, and to render its profeſſors juſtly reſpectable over all Europe, than the excellent method of making pupils ſtudy, at the bed-ſides of patients, both the progreſs of diſeaſes, and the effects of remedies; eſpecially as this is conjoined with lectures, where the method of treatment employed, is the ſubject of diſcuſſion; and in which it is not rare to find the profeſſor accuſing himſelf of error, analyſing the cauſe of his miſtakes, and pointing out the mode of avoiding them. Theſe things, ſo much neglected elſewhere, appear to our author ſo neceſſary, that they ſhould, he thinks, not only be imitated, but even commanded; and by making hoſpitals real ſchools of medicine, they are rendered doubly reſpectable in the eyes of humanity. Accordingly, what was firſt done done at Edinburgh, is now adopted into ſeveral other of the principal hoſpitals of Britain, and

into

into many of thoſe of Germany, but particularly into that of Vienna, the hoſpital of which may, he thinks, at preſent be mentioned as one of the beſt regulated in Europe.

But, beſides the inſtruction furniſhed to pupils; upon hoſpitals very much depends the progreſs which may be expected in the healing art. For it is almoſt there alone, that trials can properly be made of new inventions, added to thoſe of ancient date, and of the diſcoveries of modern chemiſtry and botany. And ſuch trials, the want of efficacy in certain caſes from every mode of cure hitherto known, ought naturally to inſpire. In private practice, a phyſician can hardly venture to depart from the beaten path; but, in hoſpital practice, he is ſure of ſubmiſſion to his preſcriptions; and it is almoſt impoſſible to avoid ſtrict regulations, with reſpect both to diet and regimen. Theſe then are advantages not to be had in an equal degree in ordinary practice, and of which an able phyſician will not fail to avail himſelf, when he wiſhes to make trial of thoſe new proceſſes in cure,

which the theory of his art and his experience ſanction with the probability of ſucceſs.

Hoſpitals being, then, in every point of view, among the number of thoſe eſtabliſhments, neceſſary and worthy of the conſtant protection of every good government, it is of the higheſt conſequence to give them that degree of ſalubrity which promiſes the greateſt probability of cure to the ſick. But, without entering into other particulars, Dr Iberti obſerves, that the moſt important circumſtance is what reſpects the building, the diſpoſition of which is often ſuch as to prevent the renewal of air, and the preſervation of cleanlineſs; agents, without which, neither the utmoſt care of the phyſicians, nor the moſt powerful remedies, can be of any uſe.

Some diſeaſes, he obſerves, even derive their birth from theſe charitable eſtabliſhments; and a dangerous ſpecies of fever has juſtly obtained its name from thoſe places where health is ſought for. The inſalubrity of hoſpitals does not tend ſo much to retard the cure of the ſick, as to add to the diſeaſes which they have carried there, others ſtill more fatal. For ſome time, governments

have

have turned their attention to priſons, and have been ſenſible of the cruelty of ſubjecting to fatal contagion, thoſe who, though ſuſpected of crimes, could not be puniſhed without a legal ſentence: But, if a reform has been thought neceſſary for priſons, how much more ſhould humanity ſolicit it for hoſpitals, in which the indigent ſeek for an aſylum in the arms of charity? It is therefore neceſſary that hoſpitals be conſtructed in ſuch a manner as to give the air free acceſs to them on all ſides,—to prevent, at every time, too great heat or moiſture,—and to form currents ſufficiently ſtrong for removing morbific miaſmata, which otherwiſe would become a fomes of contagion.

All theſe advantages, our author obſerves, are to be obtained by means of due ſeparation from other buildings, of expoſure, and of the diſtribution and correſpondence of different parts of an hoſpital. But in place of this, the ſkill of architects has hitherto been directed to œconomy, and to the accommodation of the greateſt number of ſick in the ſmalleſt poſſible ſpace; and the chief boaſt of hoſpitals ſeems to have been placed in the number they re-

ceived, not in thoſe who were diſmiſſed in health. But it is at leaſt neceſſary that ſalubrity and œconomy ſhould be conjoined.

Dr Iberti's attention has long, we are told, been particularly fixed on the ſubject of hoſpitals; and the habit of obſerving thoſe eſtabliſhments, to which he had been attached in Italy and in Spain, proved to him, that, upon the proper diſpoſition of an hoſpital, depends not only the renewal of air, a circumſtance always eſſentially neceſſary, but alſo in a great degree its internal policy, and the regularity as well as the expedition of the ſervice. It was accordingly upon theſe grounds that he formed the idea of a new hoſpital; which however, he obſerves, he might never have been able to communicate to the public, without the aſſiſtance of Mr Delannoy, an architect whoſe profound views in every part of his art rendered him capable of giving every neceſſary advice; and to him Dr Iberti acknowledges the obligation of having drawn, from the data with which he was furniſhed, thoſe plans, engravings of which are annexed to his treatiſe, but which the nature of our work will not permit us to introduce.

As to the general form of the hoſpital which Dr Iberti propoſes, it conſiſts of a large ſquare building, divided by four other rows of buildings, forming a Grecian croſs, and united at the centre by a building of a circular form. By this diſpoſition, the large ſquare is divided into four ſmaller courts, each of which, however, are ſufficiently large for the free circulation of air. He propoſes that this building ſhould conſiſt only of a ground floor and firſt floor; for a number of floors render the ſervice difficult, increaſe the danger in caſes of fire, and prevent the ventilation of the floors below. The ground floor, which he propoſes to have ſufficiently elevated above the level of the court, and ſufficiently lofty, ſo as to admit even of an interſole when neceſſary, he would appropriate for lodging the phyſicians, ſurgeons, chaplains, nurſes, and in general every perſon attached to the hoſpital.

Beſides this, he intends that it ſhould contain the admiſſion-room, conſulting-room, room for out-patients, the ſhop, the elaboratory, the wardrobe, the ſtore-room, the magazine for matraſſes, a room for the reception of the clothes of thoſe patients who enter the hoſpi-

tal,

tal, and other ſimilar conveniences. In addition to theſe, he propoſes alſo to place there lunatics and pregnant women. He allows, indeed, that ſeparate buildings would be more proper both for the one and the other; but this, he thinks, might deviate too far from the œconomy which it is neceſſary always to have in view; and he is alſo of opinion, that it would not be difficult to demonſtrate, that the apartments here allotted to them would be equally ſafe and convenient.

When it is neceſſary to aſſign to thoſe labouring under contagious diſeaſes, apartments altogether ſeparate from others, no ſituation, Dr Iberti thinks, can be better ſuited to theſe, than a part of the ground floor. Theſe patients, while few in number, ſhould have each a ſeparate apartment; a precaution eſſentially requiſite, where an attempt is made to prevent an epidemic. Where, however, an epidemic has already taken place, and conſequently a conſiderable number are affected with it, one or more wards muſt be appropriated to them, regulated in a manner of which the author afterwards takes notice. The ground floor being ſufficiently extenſive, Dr Iberti propoſes alſo to

place

place there, in particular apartments, conſumptive patients, and thoſe labouring under hydrophobia.

In Dr Iberti's plan, the under floor is divided by long paſſages, uninterrupted through their whole length; and, by means of windows opening into theſe paſſages, at certain diſtances, free air is afforded not only to the paſſages themſelves, but alſo to all the apartments of the ſick, and the lodgings of the different officers placed there.

As to the wards for the ſick which occupy the firſt floor, the front walls riſe to their whole height, and ſupport an arch, pierced at proper diſtances by lanterns, or ſimply by openings, ſerving as ventilators. The uſe, and even the neceſſity of theſe ventilators, is, Dr Iberti thinks, very manifeſt: they facilitate the eſcape of thoſe mephitical vapours, which the inferior currents inceſſantly tend to accumulate at the upper part, where they would remain ſtagnant, if care were not taken to afford them an outlet. The height of this floor is ſuch as to have two rows of windows, the one immediately above the other.

Paralled

Parallel to the ſide-walls, and at a certain diſtance from them, Dr Iberti propoſes that a ſlight partition ſhould be raiſed, to the height of the lower windows in the wards for the ſick, and which ſerves to incloſe a paſſage principally intended for the ſervice of the privies. The beds of the ſick are to be ſet againſt this partition, and they are to be ſeparated from each other by ſlight partitions, running in a direction croſs the wards, and ſo high that the patients cannot ſee, or eaſily diſturb each other. Two ſuch ranges of alcoves, which however are not, as ſome readers of Dr Iberti's work have ſuppoſed, ſhut at the top, but open above to the whole height of the ward, conjoined with large and clear wards, where every thing favours the circulation of air, appears to our author to be of all diſpoſitions the moſt ſimple and the moſt advantageous. He propoſes, that the alcoves ſhould be ſufficiently large to admit of two paſſages by the bed of each patient: that in each alcove there ſhould be an air-hole under the bed, ſupplied from the ceiling of the ground floor, and capable of being opened, ſhut, or regulated at pleaſure. He adviſes, that all the bed-ſteads

bed-ſteads ſhould be made of iron, and of ſuch a conſtruction, that, by means of a handle, every poſſible degree of inclination, ſuited to the convenience of the ſick, may be given them: and, to avoid all fœtor as much as poſſible, he propoſes, that in place of cloſe-ſtools, the wards ſhould be plentifully ſupplied with water-cloſets.

As there is a manifeſt cruelty in performing chirurgical operations in the wards of the ſick, and almoſt under their eyes, it is neceſſary that places ſhould be appropriated for theſe purpoſes, in which proper inſtruments ſhould be depoſited, and which ſhould be lighted from the top. Thoſe patients from whom acute pain draws forth cries, ſhould alſo be placed at a diſtance from others; and, in fine, every thing ſhould be avoided which, by exciting the ſenſibility of the patient, can diſturb the courſe of nature. On this account, Dr Iberti adviſes, that only a certain number of ſtrangers at a time ſhould be admitted into the wards.

At the point of union of the four ranges of lodging within the ſquare, which cut each other at right angles, and in the centre of the large circular building which has already been mentioned,

mentioned, on the firſt floor the kitchen is to be placed, and on the ground floor the furnaces of that kitchen. In this, Dr Iberti obſerves, that he imitates the hoſpital of Florence; and he thinks it is hardly poſſible to follow a better model; for by this means a very ſmall quantity of fuel will be ſufficient; which is, he remarks, an almoſt inconceivable object of œconomy.

The kitchen he directs to be formed by a circular wall, opening by arcades, which may be ſhut at pleaſure by glaſs doors, ſo as totally to hinder the ſmell of the kitchen from being propagated into the wards; and a circular gallery on the outſide of theſe, will ſerve as a communication for paſſing from one ward into another. On the outſide of this gallery, he propoſes to place the apartments for bathing. Their number, he obſerves, ſhould be conſiderable; and the neighbourhood of the kitchen will furniſh warm water in ſufficient quantity, to afford an opportunity of adminiſtering, to every ſick patient who may have occaſion for it, a remedy ſo frequently neceſſary in practice. He adviſes, that the bathing-tubs be made of marble, rather than metal, becauſe in medi-

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cated baths, in particular, the latter being in ſome degree diſſolved, may alter the effect of the remedy. And he concludes this ſubject with obſerving, that neither machines for fumigation, for ſhower-baths, nor, in a word, any thing which concerns baths taken under every poſſible form, ought to be neglected.

Among other abuſes which have taken place in the adminiſtration of hoſpitals, the want of a ſufficiently frequent change of bed-clothes and body linens, may, he thinks, be juſtly mentioned; or, what is perhaps worſe, furniſhing the patients with linens ill-waſhed, and ſtill moiſt. This, he thinks, beyond doubt proceeds principally from the difficulty of procuring warm rooms, or drying-houſes ſufficiently large, to ſpread out and dry, by an equable heat, a conſiderable quantity of linen at a time. But in the plan of kitchen which Dr Iberti propoſes, under the chimney-head, in a vaulted room forming the elevation of the rotundo, he propoſes that the drying apartment ſhould be placed, heated by tubes coming directly from the kitchen, and giving exit to the ſmoke.

Among other advantages of this kitchen, he mentions alſo, that it ſerves as a ventilator for

part

part of the hoſpital. Stoves diſtributed through all the wards, for preſerving the neceſſary degree of heat in the Winter, will likewiſe ſerve as ſo many ventilators, and will furniſh ſand-baths, for keeping of a proper temperature the broths, ptiſans, and other drinks which may be ordered for the patients.

Dr Iberti next proceeds to make ſome remarks on the diſtribution of patients in the different wards of his hoſpital. He obſerves, that the plan of the firſt floor, taken altogether, forms as it were four large ſquares, united at a point, the centre of the kitchen, and conſiſting in all of twelve large wards. The two ſquares towards the front he would appropriate entirely to the internal diſeaſes of men and of women. Theſe two ſquares, which have one ſide in common, occupy ſeven of the twelve large wards which conſtitute the firſt floor. Two of the remaining wards in the back of the hoſpital, he propoſes ſhould be appropriated to the ſurgical diſeaſes of men, and two to thoſe of women; and the twelfth ward, which makes a common ſide to the two ſquares which are backwards, he would appropriate to women before and after delivery.

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The wards deſtined for chirurgical patients, are ſeparated from each other at the corners by two large round apartments, lighted at the top by a cupola, and intended for operations. Two other rotundoes, lighted in the ſame manner, terminate the two wards in the principal front of the hoſpital, and are intended to ſerve as ſtore-rooms for linen and other neceſſaries; beſides which, by means of the ſtove in the middle of them, they will ſerve as ventilators for the neighbouring wards. Four apartments, which terminate the wards forming the croſs in the middle, may alſo be conſidered as ſerving the ſame purpoſe. But theſe are more particularly intended for chapels, having an altar placed in the centre, which will be viſible from all the wards, and which will admit of proper decorations, and of every convenience neceſſary for worſhip.

After theſe obſervations on the maſs of the hoſpital, Dr Iberti next proceeds to ſpeak of the acceſſary buildings which muſt neceſſarily accompany it. And, firſt, he mentions two houſes for convaleſcents, placed one on the right, the other on the left ſide of the hoſpital, ſituated each in the middle of a large garden,

completely ſurrounded by a piazza, communicating with the principal hoſpital, which will ſerve, in all weathers, as a walk for thoſe who are able to go abroad to take the air, and to eſtabliſh a conſtant communication, by which convaleſcents may be able to receive, at all times, either from the kitchen or ſhop, whatever may be neceſſary for them.

All the ſpace between the covered walk and the houſes for convaleſcents, may be regularly diſpoſed in ranges of trees, forming alleys for walks in the open air; and in the interval between theſe walks may be either green turf, or different plants ſerving for uſe or for ornament. This he the rather recommends, as it has been found by experience, that the growth of vegetables tends very much to purify the air.

At the four angles, formed by the extremities of the covered walks ſurrounding the garden, Dr Iberti has placed in his plan, four pavilions. One of theſe he intends for a bake-houſe, another for a dairy, a third for a ſlaughter-houſe, and the fourth for a waſh-houſe.

As a botanical garden is neceſſary to an hoſpital, both for pharmacy, and likewiſe for the inſtruction

inſtruction of pupils, he appropriates for this purpoſe a large ſemicircular ſpace behind the hoſpital, at the ſweep of which, moſt diſtant from the hoſpital, he propoſes to place an amphitheatre for anatomy; as, for the cultivation of this branch of medicine, he conſiders hoſpitals as preſenting the greateſt advantages.—Hitherto, he obſerves, what has chiefly been ſtudied in anatomical theatres, is merely the ſtructure of the human body. This is unqueſtionably an eſſential preliminary; but afterwards, ſtill more advantage, in the progreſs both of medicine and ſurgery, may be derived from pathological anatomy, occupied in conſidering the connection between morbid appearances found upon diſſection, and thoſe diſeaſes to which the patients were known to be ſubjected before death; and he obſerves, that although ſuch enquiries might be ſometimes humiliating to the practitioner, yet the cauſe of humanity and of ſcience would be ſerved by them: And, ſtill farther to anſwer this purpoſe, he recommends that preparations ſhould be made of the principal morbid parts, properly numbered, and referring to the page of the

regiſter in which the hiſtory of the patient's caſe is recorded.

We have thus endeavoured to give ſome account of the idea of a new hoſpital, as propoſed by Dr Iberti; and although we are afraid it will not be eaſy for the reader to underſtand every part of it, without the aid of thoſe plans which are annexed to the original treatiſe; yet there can be no doubt, that many hints are thrown out, rarely carried into practice, which may with very great advantage be adopted, even in hoſpitals already built and eſtabliſhed; while they may be ſtill more uſeful at the building of a new hoſpital, even although Dr Iberti's plan ſhould not be followed in all its extent: And it will be univerſally admitted, that there is perhaps hardly any ſubject, by which the intereſt both of medicine and of humanity may be more eſſentially promoted, than by the proper conſtruction and regulation of hoſpitals.

II.

II.

Æthuſæ Cynapii in Corpore Humano Effectus nocivus. *Auctore* Rudolpho Buchhave, *M. D.* Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. I.* 8vo, Hauniæ.

SOON after the publication of Dr Stoërk had celebrated the praiſes of Cicuta, and led to its employment over almoſt all Europe, very different opinions came to be entertained of its effects; and in particular, it was often accuſed of producing alarming, and even dangerous conſequences. Theſe, Dr Buchhave thinks, may not unfrequently proceed from the Æthuſa Cynapium, the Cicely or Fool's Parſley, as it is called in Engliſh, being mixed with the conium maculatum, or common hemlock, the article recommended by Dr Stoërk. To this opinion our author is led, from ſome caſes which fell under his own obſervation; and theſe he relates in the paper before us.

The firſt caſe, is that of a widow, about forty years of age, who had been long afflicted with carcinomatous ulcers of her face and neck, pouring forth a very fœtid ichor, and, although ſurrounded by callous edges, yet gradually extending to the neighbouring parts. In other reſpects ſhe was in good health. Beſides laxatives, Dr Buchhave preſcribed for her hemlock pills, which ſhe took without any inconvenience for the ſpace of two months. But no change for the better being produced upon the diſeaſe, he preſcribed the herb of the hemlock, directing an ounce of it to be boiled in thirty-two ounces of ſimple water; and of the ſtrained liquor three ounces were ordered to be taken daily, in different portions, for the ſpace of four or five weeks. But during that time, ſhe frequently complained that the draughts of her decoction excited tremors, vertigo, headach, cholic pains, vomiting, loſs of ſtrength, and averſion at food. Dr Buchhave, ſuſpecting that theſe might proceed from improper regimen, directed ſtrict attention in that particular, and, hoping for better effects, admoniſhed her to continue the decoction. But being afterwards informed

informed that conſequences ſtill more alarming had taken place, particularly violent vomiting and ſevere convulſions, and never having known theſe to proceed from the Conium, he was led to examine the plant with which ſhe was furniſhed; and he ſoon found, that a large proportion of the Æthuſa was mixed with the Conium. After this ſhe was furniſhed with genuine and unmixed hemlock. Of this ſhe formed a decoction, and took it in the manner before directed, without any inconvenience. Under the uſe of this, the ſymptoms above enumerated gradually diminiſhed; her ſtrength was daily augmented; the malignant ulcers yielded a laudable pus; and, in the ſpace of about eleven months, ſhe was completely cured.

Soon after this, Dr Buchhave was conſulted about the caſe of a woman in the country, whoſe whole family had died of conſumption. She was a little paſt her twentieth year, and had complained for a long time of difficult reſpiration and dry cough. She had taken a variety of remedies, without obtaining any relief. Suſpecting tubercles in the lungs, Dr Buchhave had recourſe to the Conium, which he di-

rected under the form of decoction, half an ounce of the plant being boiled with thirty-two ounces of water to two pounds; and ſhe was directed to take three ounces of the ſtrained liquor every two hours. After it had been uſed with impunity for twenty-four days, ſhe became affected with difficult reſpiration, headach, cholic pains, nauſea, vomiting, laſſitude, and torpor. Dr Buchhave ſuſpecting a ſimilar accident to that formerly mentioned, examined the leaves from which the decoction had been formed; and here alſo he could eaſily diſtinguiſh the leaves of the Cicely, mixed with thoſe of the Hemlock. To prove beyond doubt that the ſymptoms mentioned above aroſe from the decoction, two other perſons took each a ſingle ounce of it; and, in the ſpace of a few minutes, nauſea and cholic pains were excited in both. This patient afterwards employed the Hemlock, genuine and unmixed, without ſuffering from thence any inconvenience.

Beſides theſe two, Dr Buchhave relates alſo a third caſe, that of a young country man, about the 20th year of his age. When he applied for our author's advice, he was affected with venereal ulcers on the palate, noſe, and

right

right cheek. In conjunction with the uſe of ſome laxative medicines, he was directed to uſe a decoction of Hemlock. He prepared this during the Summer from the plant collected in his neighbourhood, and uſed it without any inconvenience. But being afterwards obliged to purchaſe it from an apothecary, it induced great nauſea, vertigo, languor, and a variety of other ſymptoms; and upon examination it was found, that here nearly equal parts of the Cicely and Hemlock were mixed: but the Hemlock being afterwards procured free from any mixture, he took it without any inconvenience; and in proceſs of time a complete cure was obtained. Dr Buckhave is of opinion, that here the inconvenience reſulting from the Cicely, was probably leſs conſiderable than would otherwiſe have been the caſe, from the patient having uſed a milk diet.

From theſe caſes Dr Buchhave concludes, that the bad conſequences which ſome have aſcribed to Hemlock, are in reality to be attributed to other plants being mixed with it; and he obſerves, that the different umbellatæ are often confounded together, the conium not only being mixed with the æthuſa, but alſo with the

the cicuta viroſa, the chærophyllum, the phællandrium, and ſeveral others. Dr Buchhave tells us, that, truſting to extenſive experience, he can boldly aſſert, that Hemlock, if it be not productive of a good effect, will at leaſt be followed by no bad conſequence, even when given in large doſes.

III.

III.

De Gei Urbani radice, pharmaco Corticis Peruviani ſuccedaneo. Auctore Rudolpho Buchhave, *M. D.*—Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. I.* 8vo, Hauniæ.

ABOUT a year before the publication of this volume of the tranſactions of the Royal Medical Society of Copenhagen, Dr Buchhave had publiſhed a treatiſe, intituled, " Obſervationes circa radicis Gei urbani vires " in febribus præcipue intermittentibus, aliiſ- " que morbis." In that treatiſe, which we have never had the good fortune to ſee, he gives an account, we are told, of a diſcovery which he had made reſpecting the medical properties of the root of the Geum Urbanum, a plant known in Britain by the name of *Herb Bennet*, or *Common Avens*, and growing in great abundance in many different parts of this country. The experience of other practitioners

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in Denmark having confirmed the obſervations of Dr Buchhave, that the uſe of this remedy might be ſtill more extenſively known, he was induced, at the requeſt of ſome members of the Royal Medical Society, to publiſh, in their Tranſactions, a ſhort account of its powerful effects, and of the method of obtaining theſe.

He ſets out with obſerving, that, of all the remedies hitherto diſcovered for the cure of intermittent fevers, the Peruvian bark may juſtly be conſidered as the ſafeſt and moſt effectual; but that, on ſome occaſions, it is too dear for the poor; that, on others, it does not ſo far overcome the fomes of periodical and intermittent fevers as to remove the danger of a relapſe; and that, in a third ſet, its effects are rendered uncertain, either from ſpurious barks being mixed with it, or on account of the length of time for which it has been kept, or its corruption in other reſpects.

From theſe circumſtances it happens, that the poor, in the diſeaſes mentioned above, have often recourſe to leſs certain and more dangerous remedies; from which, diſeaſes of a chronical nature, in the end often even proving

ing fatal, not unfrequently ariſe. Urged by theſe conſiderations, when placed in a ſituation where intermittents prevailed very much, he collected a variety of leaves and roots from domeſtic plants, and diſtributed them among the ſick, in the hopes of finding, by ſuch trials, ſome article indigenous in Denmark, not inferior to the Peruvian bark.

Some of theſe, though rarely, were yet productive of benefit; but the effects of moſt of them being uncertain, he at laſt fell upon the root which is the ſubject of this paper. He knew, that the Geum Rivale, or Water Avens, which is daily uſed for the cure of tertian agues among the Canadians, had upon the authority of Kalm, been introduced as a remedy in Sweden; and although it had by no means been always ſucceſsful, yet the benefit derived from it was a ſtrong inducement with him to make trial of the Geum Urbanum, from the hope that, in this root, nearly related to the other, a febrifuge power might reſide. The firſt trials which he made, gave him hopes of ſucceſs; and, from repeated experience, he found the virtues of this article ſo ſtrongly confirmed, that he repoſed the greateſt confidence in it;

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and he has now for ſome years held it to be a remedy which, in the cure of periodical and other diſeaſes, is even much ſuperior to the Peruvian bark.

Rejoicing in this diſcovery, he committed to writing the obſervations he had been able to make reſpecting it, and publiſhed them for the public good, in the treatiſe to which we have already alluded; and, in the paper before us, he preſents us with a conciſe view of his obſervations, particularly with regard to the ſynonimes of the plant—the deſcription and character of the root—the time of gathering, and the method of drying it—as well as its virtues and efficacy in the cure of diſeaſes.

The Geum Urbanum of Linnæus, which, among the ancient botaniſts, had the name of *Caryophyllata Vulgaris*, never, he tells us, grows in open or cultivated grounds, but delights in the ſhade of trees or ſhrubs; and is therefore moſt frequently met with in woods or orchards, or by the ſides of hedges or walls. The root arrives at the greateſt ſize, and is the moſt powerful, when growing in fat ground.

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For the generic and ſpecific deſcription of this plant, our readers may be entirely referred to the writings of Linnæus. After the plant has flowered, and the ſeeds have fallen from the receptacles, late in the Autumn the root produces new leaves, which remain green the whole Winter, even under the ſnow. Thus, the plant may be found at all times of the year. The root, which is perennial, is often about the length and thickneſs of a finger; and, in old plants, it conſiſts of a principal root, from which proceed numerous long fibres. This principal root is conical, and deſcends obliquely into the earth. When it is cut either tranſverſely or according to the length, it ſhews a cortical part of a whitiſh colour, and a medulla of a beautiful violet colour. Theſe marks ſufficiently diſtinguiſh this root from that of the Water Avens, which has a white medulla, and is a creeping root, furniſhed with very few fibres, chiefly growing in moiſt and marſhy grounds.

This root, which to the taſte ſhows conſiderable aſtringency, poſſeſſes an aromatic flavour by no means ungrateful, and approaching to that of cloves. It tinges water, wine, ſpirit,

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or any ſimilar menſtruum, with an obſcure red colour; and, when pounded, it forms a pale red powder. The beſt time for collecting this root, according to our author, is from the beginning of April to the end of July. The roots which are dug at other ſeaſons of the year, poſſeſs much leſs of the aromatic ſmell and taſte, and are leſs powerful. The roots, as ſoon as they are dug, muſt be carefully waſhed and cleaned from all adhering matter, particularly from the black ſquamulæ with which they are often covered, and which, while they are inert, give a diſagreeable appearance to the powder.

The proper method of drying the root is, according to our author, a ſubject of the utmoſt importance; for upon this its efficacy in the cure of diſeaſes very much depends. The roots, after being freed from every foreign matter, are to be placed in a dry and cold ſituation, open to the wind and air, but not expoſed to the rays of the ſun. By this means, in conſequence of a ſlow and cold evaporation, the medical powers of the root are retained. For, in conſequence of a ſtrong heat, either

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from the rays of the ſun, or from a fire, the agreeable and efficacious aroma flies away.

Various virtues, our author obſerves, have been attributed to this root by different writers. Among others, it has been reckoned aſtringent, aphrodiſiac, ſudorific, antacid, antihyſteric, and the like. Some alſo, although in a tranſitory way only, have mentioned its antiſebrile power. But beſides its internal uſe, recourſe has alſo been had to the whole plant externally, as a cure for ſcorbutic ulcers and fiſtulas. According to the experience of Dr Buchhave, it is ſlightly aſtringent, alexipharmic, and antiſeptic. The firſt of theſe powers he found it to exert in diſeaſes depending on laxity of fibre, as in affections of the alimentary canal, dyſenteria, diarrhœa, and the like. The ſecond he found it to exert in mucous diſeaſes, reſolving, by its aroma, ſuperfluous mucus, and diſcharging it through the cutaneous pores: By this means he found it in ſome caſes excite even copious ſweating. The third and laſt, its antiſeptic power, he found it exert in an eminent degree in malignant and putrid diſeaſes; inſomuch that he conſiders this root as being the moſt powerful antiſeptic yet diſcovered.

The firſt trials with this root, as has already been mentioned, were in intermittent fevers, where it much exceeded his expectation; for he did not expect to find a remedy ſuperior to the Peruvian bark; and when he began his enquiry, he would have been very well contented to have found an equal to it. In the beginning he employed it in large doſes; but having, from ſome accidental circumſtances, found that ſmall ones were productive of the ſame effect, he learned to determine the proper doſe by experience; and he found, that three or four drams were ſufficient for removing moſt intermittents; although autumnal quartans ſometimes required more. In all the intermittents removed by it, the cure was effected in the moſt ſimple manner; for, after premiſing an emetic or purgative to empty the alimentary canal, he had immediately recourſe to the febrifuge; and in ſome caſes even of quartans, no circumſtance occurring to indicate the uſe of any evacuant, the febrifuge was immediately had recourſe to without premiſing any remedy.

Dr Buchhave aſſerts, in the ſtrongeſt terms, that by this remedy, employed in the manner that has been mentioned, he was never diſappointed

pointed of the wiſhed-for ſucceſs, unleſs when the root was not of good quality, from being ill dried, or collected at an improper time; and even in theſe caſes, it was in general neceſſary only to give a larger quantity of the root, employing ſix or eight drams, in place of three or four. An increaſed doſe was ſometimes alſo neceſſary, from the peculiar obſtinacy of the diſeaſe, or peculiar anomalous ſymptoms. Thus, in one double tertian, although the root was of the beſt quality, two ounces were found to be neceſſary for completing the cure.

In intermittents of a very bad kind, and particularly thoſe accompanied with viſceral obſtructions, it is ſometimes neceſſary to have repeatedly recourſe to the uſe of the remedy, where it ſeems to be accommodated to the nature of the diſeaſe; but, in other caſes, it is more adviſeable to attempt a cure by reſolvents, cathartics, or the like. Of this kind often are thoſe intermittents, which, occurring in Autumn, run on late in the Winter, or even to the Spring, obſtinately reſiſting every remedy. In all thoſe intermittents in which he ememployed this root, while he found it almoſt uniformly of ſervice, he never obſerved from

it, even when taken to the greateſt extent, any bad effect; and it could never be ſuſpected of inducing obſtructions of the viſcera, or the like.

Since the vulgar, among whom Dr Buchhave made his firſt trials, reckon ſpirits a great delicacy, he firſt uſed the root of the Geum under the form of an eſſence; he then tried it in the form of decoction; and laſtly, under that of powder. But under every form it retains its medical properties, and is productive of the ſame effect. Upon the whole, however, he was inclined to give the preference to the powder and to the eſſence, being ſuſpicious that the grateful volatile part was exhaled in boiling. For the formation of the eſſence and decoction, he uſed the following forms:

Eſſentia.

℞ Rad. Gei. urb. unc. iv. conſc. contuſ. infunde in Spt. Vin. Gal. lb. ii. M. digere in balneo arenæ per ſex dies, et cola.

Decoctum.

℞ Rad. Gei. urb. unc. i. contuſ. coqu. cum Aquæ ſimplicis lb. iſs.
ad remanent. lb. i. colat. adde
Syr. Com. q. v.

Beſides

Beſides theſe, Dr Buchhave gave the Geum alſo under the form of the following electuary:

℞ Pulv. Rad. Gei. urb. ſemunc.
Mel. deſpumat. q. ſ. M. f. Electuar. molle.

Of the eſſence or tincture, an ounce and a half is the ordinary doſe; and this, diluted with a little water, is to be taken three or four times on the day of the intermiſſion. Of the decoction, two ounces are to be taken every hour, or every ſecond hour; while the electuary or powder are taken at the ſame intervals, to the extent of about half a dram. Though theſe doſes may, to practitioners unacquainted with this medicine, appear ſmall, yet our author aſſures us, that when the medicine is of good quality, they will be found fully ſufficient.

In ſome caſes, where intermittents are ſtopt by means of the Peruvian bark, it is neceſſary, in order to prevent a relapſe, that it be afterwards continued to a conſiderable extent; and there are caſes upon record, in which it has been found neceſſary to exhibit it to the quantity of one, two, or even more pounds. On the contrary, when the diſeaſe is ſtopt even

by ſmall doſes of the Geum, Dr Buchhave affirms, he very rarely found it neceſſary to have recourſe either to more of this, or to any other medicine, with a view of preventing a relapſe; and that, too, even where patients, immediately after their recovery, uſed greater freedom in indulging themſelves in every reſpect than they ought to have done. This, he thinks, clearly ſhows, that the Geum, by its action on the nerves, poſſeſſes a power even ſuperior to the Peruvian bark, in completely extinguiſhing every febrile commotion.

While Dr Buchhave was engaged in the cure of intermittents by means of the Geum, he was led, in part by accident, and in part by reaſoning, to employ it in many other diſeaſes; and from theſe trials he derived a high degree both of inſtruction and of ſatisfaction. Thus, while he employed it for the cure of an intermittent, with a man who at the ſame time laboured under a hæmaturia, the diſcharge of bloody urine entirely ceaſed. Being called to a woman in the country, who laboured under hæmatemeſis, and having no other remedy at hand, he had recourſe to the Geum, under which ſhe had a complete recovery. From thence he concluded,

ed, that the Geum was a uſeful remedy in hæmorrhagies.

As the vomiting which frequently takes place in intermittents was removed by means of the Geum, he inferred, that it might be uſeful in affections of the nervous kind. Its influence in a weakened ſtate of the ſtomach, pointed out its uſe for reſtraining increaſed diſcharges by the belly; and the analogy between periodical and acute diſeaſes led him to infer, that it might be uſeful in theſe; while again its ſtrong antiſeptic power, proved by experiment, pointed it out as an article promiſing relief in putrid and malignant complaints; and from the ſucceſs with which it was attended in theſe different ailments, he infers, that it is not merely poſſeſſed of a febrifuge power, but that it is endowed with many other virtues not inferior to this; and in particular, he obſerves, that all who employed this medicine were ſenſible of its effects in ſtrengthening the alimentary canal, improving the appetite, and giving freſh vigour to the whole ſyſtem.

The method in which Dr Buchhave employed the Geum in other complaints, was nearly ſimilar to that in which he uſed it in intermit-

tents. Having premiſed or interpoſed ſuch other remedies as indications ſeemed to require, he proportioned the quantity of the Geum to the importance of the complaint; giving the powder in doſes of half a dram, or a ſcruple, from two or three to five or ſix times in the courſe of the day.

There can be no doubt, that if this article ſhall nearly merit the character which Dr Buchhave has beſtowed upon it, we may juſtly conſider it as a moſt important addition to Materia Medica, or rather as the uſeful revival of a medicine too much neglected; for it has a place in moſt ſyſtems of Materia Medica, either under the name of Geum, or Caryophylata. But after the many inſtances which have often occurred, of deceptions on former occaſions, even in the hands of apparently accurate obſervers, it will readily be allowed, that it is only by the concurring teſtimony of many different practitioners, that the real character of any medicine can be determined; and the inducements to have recourſe to the Geum, are ſo numerous, that future trials, it is to be hoped, will not long be wanting.

It is here however proper to remark, that, in the hands of ſome other Daniſh practitioners, the Geum has not been equally ſucceſsful. Thus, in the volume now before us, there is a paper, intituled, "Obſervationum medico-practicarum ſubſecivarum decas. Auctore A. B. Ranoe, M. D." &c. which, among other miſcellaneous obſervations, contains ſome remarks on the Geum. Dr Ranoe there informs us, that he tried it againſt tertian fevers in ſix caſes, in none of which it had the ſmalleſt effect. He acknowledges, however, that the intermittents of that year were peculiarly obſtinate; and, in ſome other diſeaſes, particularly in caſes of hyſteria, of uterine hæmorrhagy, and with ſome reconvaleſcents from fever, he found it of great ſervice.

IV.

IV.

Obſervatio de Morbo Maculoſo Hæmorrhagico. Auctore Joanne Philippo Rogert, *M. D. Diœceſ. Viburg. jutl. Phyſ. Reg. Societ. Memb. Extraord.*—Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. I.* 8vo, Hauniæ.

IN the paper before us, the hiſtory of a caſe is related, affording an example of a diſeaſe, which, although probably it not unfrequently occurs in practice, yet has claimed but little attention from medical practitioners, and has, we think, been improperly confounded with other diſeaſes. It muſt indeed be admitted, that, in ſome particulars, it has a reſemblance to ſcorbutus, or ſea-ſcurvy. But at the ſame time, no one who has had an opportunity of ſeeing both diſeaſes, can have any doubt that they are eſſentially different; and, notwithſtanding what may have happened in particular

particular inſtances, (ſuch, for example, as in that now before us), yet this affection, we may venture to aſſert, will by no means, in general, be found to yield to that treatment beſt fitted for the removal of ſcorbutus. It may therefore be juſtly conſidered, both with reſpect to the hiſtory and practice, as a ſubject well deſerving the attention of practitioners.

The caſe here related, is that of a girl in the twenty-ſecond year of her age, of a ſlender make, and very fair complexion. She had, for a conſiderable time, led a ſedentary, or rather an indolent life, and was often afflicted with headach, bleeding at the noſe, and inflammation of the eyes. She had regularly menſtruated, but not without ſome difficulty.

While her menſes were flowing, during the month of November 1777, and upon being much heated with dancing on repeated occaſions, ſhe expoſed herſelf to a cold piercing wind, with the view of diminiſhing the heat. Upon this ſhe became affected with a troubleſome cough, and an exceſſive flow of the menſes for three ſucceeding periods; and, on the firſt of March, the flow was moſt profuſe, attended with ſevere headach, and ſuch anxiety

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at the præcordia as even threatened fainting. The day following ſhe was obliged to keep her bed, and was much alarmed by the appearance of a diſcharge of blood, from the angles of the mouth, the lips, the tongue, and the gums, either happening ſpontaneouſly, or from the ſlighteſt injury. Blood alſo was diſcharged from the noſtrils, and coagulated clots were evacuated by coughing, while the urine was of ſuch a dark colour as to verge even to blackneſs. Red ſpots, the largeſt from five to ſix lines in diameter, the ſmalleſt about the ſize of flea-bites, appeared both on the face and trunk of the body, but ſtill more on the extremities. Theſe in a few days became of a black colour; and they were ſo far extended, that even the tunica conjunctiva of the eye was not free from them. The blood diſcharged was apparently ſound, much reſembling that diſcharged from cutting a vein; but it ſhowed no cruſt upon its ſurface.

With the view of combating theſe complaints, recourſe was had to nitre with oxymel, taken in barley-water; and it was obſerved, that, notwithſtanding a conſiderable loſs of blood, the ſtrength of the patient was hardly in

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any degree impaired. The flux continuing, on the 5th of March a vein was opened in the foot. In other reſpects, matters continued much in the ſame ſituation, excepting that a ſmall quantity of rhubarb, taken every ſecond day, ſeemed to have diminiſhed the flow through the natural paſſages.

On the 8th of March, the menſtrual diſcharge ſtopped; but the hæmoptyſis and diſcharge of blood by urine ſtill frequently recurred. Her ſtrength however remained unimpaired, and her ſleep and appetite were even mended. On the 16th of March, ſhe diſcharged red-coloured turbid urine, with conſiderable ſtrangury and pain at the under part of the belly. Her cough and oppreſſion at the breaſt, were always relieved upon the diſcharge of clots of blood. Beſides theſe ſymptoms, ſhe was much diſtreſſed with tinnitus aurium, and a ſenſe of noiſe in the head, and her tongue was covered with a white mucous cruſt.

This being the ſtate of the diſeaſe, as it appeared unuſual and wonderful, Dr Rogert, who was placed at a diſtance from this patient, was conſulted by letter reſpecting its nature

nature and the mode of cure. Although he was unable to inveſtigate the cauſe of this diſeaſe, yet he was inclined to attribute the ſymptoms to a diſſolved ſtate of the blood. He obſerves, that medical records contain hiſtories of maculæ and hæmorrhagies, even by paſſages more uncommon, in inſtances of ſcorbutus, of putrid fever, of ammenorrhœa, of poiſons taken internally, and of poiſons introduced externally, by the bite of particular ſerpents, particularly of the Seps, Labarra Americana, Hæmorrhois, and ſome others. But to none of theſe cauſes could the diſeaſe of his preſent patient be attributed. She indeed dwelt upon the ſea-coaſt, in a ſituation often liable to intermittent fevers. But ſcorbutus could not, he thinks, proceed from this cauſe alone; and here there was no vitiated diet to induce it. Beſides this, conſiderable hæmorrhagies in ſcorbutus and putrid fever rarely take place, unleſs on the approach of death, and are preceded by a great degree of debility, which in this caſe was entirely wanting. Thoſe hæmorrhagies which depend upon the menſtrual diſcharge, ariſe only from ſuppreſſion; but in this caſe, the menſes, although

though ſomewhat inordinate, were not ſuppreſſed. Nor was there here the ſmalleſt ſuſpicion of the introduction of poiſon of any kind. On the day of its commencement, indeed, the patient had taken broth in which pork had been boiled; but this could with as little juſtice be conſidered as having any influence in inducing the diſeaſe.

But, whatever might be the cauſe of this affection, Dr Rogers obſerves, that from the analogy of this diſeaſe to ſcurvy, which he conſiders as moſt nearly approaching to it, he directed that the cure ſhould be conducted in a ſimilar manner. On this account, he refrained from blood-letting: He directed a gentle laxative with manna to be firſt taken, and the belly to be afterwards kept gently open by a powder, conſiſting of equal parts of cream of tartar and rhubarb, taken every morning and evening. He directed alſo, that half a dram of the Peruvian bark ſhould be taken every two hours; that fluids ſhould frequently be drunk, acidulated with a conſiderable proportion of the vitriolic acid; and that this ſhould be alternated with an infuſion of horſe-radiſh, or muſtard, in beer; that, avoiding all fat or

ſalted

ſalted meat, the patient ſhould live entirely on a diet of milk, freſh animal food, and vegetables.

This plan having been adopted, Dr Rogert was informed, on the 25th of March, that the patient was now no longer confined to bed; that her ſtrength was increaſed; that her general habit was little different from that of a perſon in health; that her appetite and ſleep were natural, although ſtill clots of blood were diſcharged by the mouth; that the ringing of the ears, ſenſe of noiſe in the head, and maculæ, ſtill continued; although theſe laſt, from a black, had become of a yellowiſh green colour. A large menſtrual diſcharge had taken place on the 23d of March, upon which a ſwelling of the epigaſtric region, to which ſhe had before been ſubjected, diſappeared. She neither now complained of heat nor thirſt, but was highly impatient and dejected. In addition to the former remedies, Dr Rogert directed a mixture of conſerve of roſes with nitre to be taken in ſmall quantities at a time; and to the infuſion of horſe-radiſh, which ſhe now nauſeated, he ſubſtituted an infuſion of malt. She was alſo directed to take, from time to time,

a glaſs

a glaſs of the expreſſed juice of garden ſcurvy-graſs.

Under theſe remedies, her complaints were by degrees ſo much mitigated, that when Dr Rogert had an opportunity of ſeeing her, on the 21ſt of April, ſhe had regained a fine florid complexion, and enjoyed perfect vigour, both of body and mind; nor was ſhe afterwards ſubjected to any ſimilar complaint.

The diſeaſe here deſcribed, may juſtly be conſidered as a rare occurrence; but, at the ſame time, it cannot be repreſented as an affection which has never been obſerved. It cannot, indeed, in our opinion, be conſidered as having entered either practical or even noſological ſyſtems. But in an inaugural diſſertation publiſhed at Gottingen ſeveral years ago, intituled, "De Petechiis ſine fibre," a caſe is deſcribed in every reſpect ſimilar to that which is here related. And in a volume of medical caſes publiſhed at Edinburgh by Dr Duncan, we have alſo the hiſtory of a petechial eruption without febrile ſymptoms. Since that, upwards of a dozen of ſimilar caſes have fallen under Dr Duncan's care, ſeveral of which have not only been the ſubject of practice, but alſo

of lectures at the Collegium Caſuale. In theſe lectures, he has given it as his opinion, that this affection may be diſtinguiſhed by the title of *Petechianoſos*, from the petechial eruption with which the affection is very generally attended; or of *Aimarrhœa*, from the ſpontaneous diſcharges of blood, which are perhaps to be conſidered as a ſtill more univerſal ſymptom; and very lately, this affection, under the title of *Hæmorrhœa Petechalis*, has been the ſubject of a very ingenious inaugural diſſertation, publiſhed at Edinburgh by Dr James Makittrick Adair, in which ſeveral caſes are collected. Without however at preſent entering farther on this ſubject, we ſhall only obſerve, that there is but little foundation for the opinion of thoſe who conſider this diſeaſe as being merely a form of ſcurvy: for, notwithſtanding the ſimilarity of the two diſeaſes in ſome ſymptoms, yet they differ very eſſentially in others; and a ſtill more material difference takes place, both with reſpect to the cauſes and method of cure.

Indeed, with regard to the preſent affection, it may be juſtly obſerved, that neither the cauſes nor method of cure are as yet, by any means, well aſcertained. Some other caſes, it

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is true, as well as that here recorded by Dr Rogert, have apparently yielded to the Peruvian bark and vitriolic acid, conjoined with ſuch a regimen as Dr Rogert has directed. But others have obſtinately reſiſted, not only that, but alſo a variety of other modes of treatment, and, after continuing for years, have at length ſpontaneouſly diſappeared; while, in a few inſtances, this affection has proved ſuddenly fatal, apparently from exceſſive loſs of blood. We may therefore point out this affection as a ſubject well meriting the future attention of practitioners.

V.

Spiritus Vini Camphoratus aqua miſcibilis. Auctore Andrea Joanne Retzio, *Phil. Magiſt. Hiſt. Nat. adjunct. et Botan. demon. ad Reg. Academ. Lundenſ.*—Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. I.* 8vo, Hauniæ.

OUR author ſets out with obſerving, that while camphor, in many particulars, agrees with reſins ſtrictly ſo called, in others it differs from them. Thus it is completely diſſolved in even weak ſpirit of wine, and the ſolution is entirely void of colour; but, like the ſolutions of reſins, upon the addition of water or watery fluids, it becomes turbid, and the water is ſeparated. It was therefore reckoned impoſſible to apply camphor under the form of a watery epithem, unleſs from ſuſpenſion with mucilage, which was often improper.

Mr Retzius had indeed often obſerved ſurgeons direct a mixture of ſpirit of wine and

and lime-water: but, in this caſe, a precipitation equally takes place as upon the addition of common water. In the paper before us, he propoſes a method, which he acknowledges he diſcovered by accident, of preparing a camphorated ſpirit of wine, miſcible with water without any precipitation.

Mr Retzius, in his private College, explaining the nature of camphor, diſſolved a portion of it in a ſufficient quantity of concentrated vitriolic acid. He obtained a brown ſolution verging to black, about the conſiſtence of oil; to this he added a quantity of cold ſpring-water, by which the camphor was quickly precipitated; and this he obtained by the help of bibulous paper, without any ablution. Immediately after this, he diſſolved the camphor in rectified ſpirit of wine, that he might ſhew to his pupils that its qualities were not changed by the vitriolic acid. But he obſerved an unexpected occurrence, upon mixing this ſpirit with water; for very ſlight appearances only of precipitation took place, and theſe very ſoon vaniſhed, the mixture remaining undiſturbed whatever quantity of water was added. But upon the addition of water ſlight-

ly impregnated either with fixed or volatile alkali, the camphor was immediately precipitated; from whence the concluſion was evident, that this effect entirely aroſe from a ſmall portion of acid adhering to the camphor.

He took, after this, another portion of camphor, ſeparated from vitriolic acid by water impregnated with alkali, and another ſeparated by lime-water. Both theſe, diſſolved in ſpirit of wine, ſhewed the uſual appearances when water was added to them. That he might ſee whether this union between acidulated camphorated ſpirit of wine, and water, was permanent, he allowed a portion of it to remain at reſt for the ſpace of three months, in a glaſs ſlightly ſtopt; and at the end of that time, it ſtill retained both the ſmell and taſte of the camphor, though ſomewhat fainter, while its pellucidity was in no degree diminiſhed.

Mr Retzius regrets that other occupations prevented him from proſecuting his experiments on this ſubject. He treated, however, in the ſame manner, a ſolution of camphor, obtained by the nitrous acid. With camphor,

firſt

firſt diſſolved in the nitrous acid, and again ſeparated from it by means of water, he formed a camphorated ſpirit with rectified ſpirit of wine. This nitrated camphorated ſpirit, mixed with water, ſhewed the ſame appearances as the vitriolated camphorated ſpirit. When it was diluted with much water, and mixed with ſyrup of violets, it ſhewed a purpliſh blue, but by no means a red colour; but blue paper obtained a rediſh tinge. From this, however, it is evident, that the portion of nitre which adheres to the camphor is but very ſmall.

When to the nitrated camphorated ſpirit lime-water is added, a precipitation ariſes; but by means of a ſmall portion of ſpirit of wine, not rectified, all the precipitate is again diſſolved. Even when no ſpirit was added, but the mixture only agitated, the whole precipitate again vaniſhed, excepting a few ſmall particles. When this mixture was filtrated through paper, it was found to be ſtrongly impregnated both with the ſmell and taſte of camphor; ſo that it ſeemed to be doubtful whether the particles ſeparated

depended upon the camphor or upon the lime.

How far the mixture here prepared will be found of advantage in practice, we will not venture to say; but it may at leaſt be juſtly conſidered as a ſubject not unworthy of the attention of pharmacians.

VI.

VI.

Vim Antarthriticam Trifolii Fibrini, exemplis ſolemnibus confirmatam narrat Arn. Nic. Aaſheim, *M. D. et Prof. Pub.*—Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. I.* 8vo, Hauniæ.

IN the obſervations with which we are here preſented, reſpecting the uſe of the Trifolium Fibrinum in arthritic caſes, the author does not pretend that this remedy can be conſidered as a new one. He juſtly obſerves, that its uſe in this diſeaſe has long been known to medical practitioners. And we may add, that while ſome have recommended the uſe of the Trifolium fibrinum or paludoſum, the Menyanthes trifoliata of Linnæus, the Marſh Trefoil, as it is called in Engliſh; others have repreſented it as a dangerous remedy. Thus, Dr Alſton obſerves, that he he has known it have remarkable effects in the

the gout, in keeping off the paroxyſms, though not to the patient's advantage. If, however, it does poſſeſs thoſe powers which he alleges, there is reaſon to believe, that, although it be not admiſſible in every caſe, it may yet be highly uſeful in ſome; and the obſervations with which we are here preſented, may juſtly be conſidered as well meriting the attention of practitioners.

On the 8th of July 1776, Dr Aaſheim was called to a patient, a country labourer in the 39th year of his age, who had for two years been confined to bed. He had been ſubjected, from earlieſt infancy to the 37th year of his age, with wandering arthritic pains, which often aroſe to ſuch a degree as to prevent him from his uſual labour. This led him to apply for aſſiſtance to an empyric travelling about the country, who furniſhed him with a ſpiritous liquor to be copiouſly applied to the pained parts; promiſing that it would, almoſt miraculouſly, remove his diſeaſe.—But, upon the application being carefully made, he was entirely deprived of the power of moving his arms, hands, thighs, legs, or feet, by which he was confined to bed. And in this ſituation he was ſubjected to moſt excruciating

cruciating pains through his whole body. Swellings took place in moſt of the affected joints, accompanied with a dryneſs of the left hand and leg.

In this ſituation, Dr Aaſheim's advice was ſought for. He found the patient confined immoveably to his bed, in a hectic ſtate, and crying aloud from the ſevere pains, all the fingers of his hands contracted, and his left arm, hand and leg, much diminiſhed in ſize. At this time, although in the middle of a very warm ſummer, the patient was almoſt buried in furs and flannels; and the doors, windows, and almoſt every thing which could admit air into the ſmall apartment in which he lay, were carefully ſhut. In addition to his other complaints, he had, for the ſpace of two weeks, been ſubjected to ſymptoms of ſcorbutus. His teeth had become looſe, his gums putrid, bloody, ulcerated, and fœtid. His limbs had a livid appearance, and large livid blotches were obſervable in different parts of his body. His face was of a leaden hue; his eyes were concave; his pulſe ſmall, frequent, and irregular; and, in ſhort, there was every appearance of ſpeedy death.

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As the narrowneſs of this patient's circumſtances was an objection to expenſive remedies, Dr Aaſheim, who had obſerved large quantities of the trefoil growing in his neighbourhood, and who recollected the obſervations of Bartholin and others reſpecting it, reſolved to make a trial, in this caſe, of its antarthritic and ſtrengthening power. He therefore directed that the patient ſhould take every day two or three tea-cupfuls of the expreſſed juice of this herb, and that he ſhould, at the ſame time, be expoſed to free air. After a trial of ſome days, appearances being favourable, he increaſed daily the quantity of expreſſed juice, till his patient at laſt took it to the quantity of ſix ſmall bowls every day; and with this Dr Aaſheim adviſed him to employ butter-milk, by way of ordinary drink. Under theſe remedies, the ſymptoms of ſcurvy not only left him, but, in other reſpects, he was ſo much recovered, that, when our author ſaw him in the month of Auguſt, he was walking about with the aſſiſtance of a ſtaff. But, about the end of the month, the juice of the trefoil becoming very diſagreeable to him, he was obliged, on account of his ſtomach, to intermit the uſe of it. Dr Aaſheim, however,

however, had reaſon to rejoice that his patient was ſo much recovered, as to be able alone to make a journey on foot, of upwards of a mile. He could now uſe his arms and hands with ſufficient eaſe; his pains had left him; the natural colour of his complexion, and his alacrity of mind, had returned; and he was able to engage in his uſual occupation. Still, however, a ſtiffneſs and contraction of ſome of his fingers remained; but, in other reſpects, he was now reſtored to health.

In the beginning of Winter, ſlight pain returned, with ſome ſtiffneſs both of his hands and feet. With the view of removing theſe, the extract of aconite was ordered to him, but without effect. In the Spring of 1777, Dr Aaſheim adviſed the juice of the trefoil to be repeated. Under this his pains again left him, the rigidity of his feet and hands was removed, and his incurvated fingers admitted of ſufficient extenſion for country work. Since that, he has continued in perfect health, and has no remains of diſeaſe, excepting a ſlight degree of ſtiffneſs in three of the fingers of his left hand. This peaſant, taught by experience in his own caſe, recommended to ſeveral of his neighbours,

ſubjected

ſubjected to arthritic pains, the expreſſed juice of the trefoil; and many of them reaped benefit from it.

About the middle of Summer, in the year 1782, when Dr Aaſheim was in the country, a peaſant was brought to him, who had been for ſome years ſubjected to wandering arthritis; but in the Spring of that year he became affected with an epidemical catarrh, for which a variety of medicines, in uſe with ruſtics, were preſcribed to him. From that time his arthritic ſymptoms increaſed, the pain being at laſt fixed in his right ankle. His neighbours perſuading him that a diſlocation had taken place, put him to a great deal of pain in attempting the reduction of it, from which the foot and leg became much ſwelled, ſo as not only to prevent all motion, but likewiſe to deprive him of ſleep and appetite, from the ſeverity of the pain. As our author ſaw no reaſon to believe that any luxation had taken place, and as he was diſpoſed to aſcribe both his preſent and former ſymptoms to gout, he adviſed the recent juice of the trefoil to be taken, to the extent of four tea-cupfuls in the day. In the ſpace of eight days, the wife of his patient

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came with great joy to inform Dr Aaſheim that her huſband was much better; that he now paſſed his nights in tranquillity; and that, with the aſſiſtance of a ſtaff, he was able to move a little about the houſe, the ſwelling and redneſs of his foot and leg being much diminiſhed. Upon hearing this, Dr Aaſheim ordered the doſe of the juice to be increaſed, till the patient took it to the extent of ſix ſmall baſons every day. This quantity of juice he continued to take daily, till about the autumnal equinox. During that time the motion of the joint became every day more free, and leſs painful. The ſwelling and redneſs by degrees diſappeared; and at length, throwing away his ſtaff, he was able both to walk and to ride with perfect facility, and engaged, without any inconvenience, in every country work.

A third peaſant, of a robuſt habit of body, after an epidemic catarrh in the Spring, which had been very improperly treated, became affected with ſevere arthritic pains; and by means of external remedies, theſe were landed on the head, the breaſt, and the inteſtinal canal.

nal. He applied for Dr Aaſheim's aſſiſtance about the ſame time with the patient mentioned above. He was then affected with vertigo to ſuch a degree, as to endanger his falling to the ground. His appetite and digeſtion were both very bad; he was frequently diſtreſſed with ſevere vomiting, and at times ſubjected to excruciating pains in his belly, particularly in the left hypochondrium. Againſt theſe complaints Dr Aaſheim employed various antimonials and bliſters, with ſome advantage, but not very conſiderable. To theſe he then ſubſtituted the expreſſed juice of the marſh trefoil, which completely removed his vertigo, difficulty of breathing, and pains in the abdomen. This, however, was attended with the renewal of ſome pains in his joints, particularly in the legs, which were not perfectly removed by the trefoil.

From theſe caſes it appears, that, in ſome inſtances at leaſt, the menyanthes may be employed with advantage againſt certain conditions of violent arthritic pains. And although, in caſes of regular gout, while it retards the return of the paroxyſm, it may at the ſame time have a tendency

a tendency to bring it back under a more anomalous form; yet it does not appear that bad conſequences of any kind could be attributed to it in the hiſtories here recorded.

It is to be remarked, that the patients here mentioned, were all of them peaſants, either not far advanced in life, or of a robuſt habit; and our author juſtly obſerves, that a mode of cure ſuited to thoſe who dwell in the country, is by no means in every caſe accommodated to the inhabitants of large towns. In the exhibition of this remedy, therefore, theſe circumſtances ought to be attended to. It may alſo be remarked, that in all theſe caſes, the trefoil was exhibited under the form of recent expreſſed juice; and in this form it can be had only at certain ſeaſons of the year. But although the recent juice may be beſt fitted for ſome affections, yet there can be little doubt, that a large proportion of it is mere water; and that its activity will be much varied by the ſucculence of the plants from whence the juice is expreſſed. A watery infuſion, therefore, of the dried leaves, will at leaſt be an article more certain in its ſtrength, and can be had at all

ſeaſons. Dr Cullen, among others, affirms that it is a miſtake to ſuppoſe, that the trefoil loſes its ſtrength by drying; and he adds, that he commonly uſes it in its dry ſtate with all the advantages he could expect. But although it has been a good deal employed in Britain, and is at preſent often directed by different practitioners at this place, and likewiſe as a remedy in cutaneous diſeaſes of the herpetic kind; yet, among us, it has not hitherto, we believe, been in uſe againſt ſuch affections as thoſe which Dr Aaſheim here deſcribes. The uſe, therefore, of a ſimple watery infuſion of it in ſuch inſtances, well merits the attention of practitioners, and may, we are inclined to think, be tried without any hazard.

VII.

VII.

The Connection of Life with Reſpiration, or an experimental Inquiry into the effects of Submerſion, Strangulation, and ſeveral kinds of noxious Airs, on living Animals: With an account of the nature of the Diſeaſe they produce; its diſtinction from Death itſelf; and the moſt effectual means of Cure. By Edmund Goodwyn, *M. D.* 8vo, London.

WE mentioned in our laſt volume, that the Humane Society of London had beſtowed one of their prize-medals for the year 1788 on Dr Goodwyn; and the eſſay now before us was the means of obtaining for him that honourable diſtinction. Dr Goodwyn had indeed publiſhed the outlines of this eſſay about two years before, under the form of an inaugural diſſertation at Edinburgh, intituled, "De morbo morteque ſubmerſorum "inveſtigandis;" and it then attracted the

attention, and merited the applauſe, of ſeveral eminent philoſophers. But it is now preſented to the public in an improved form, and with many important additional obſervations.

The author ſets out with endeavouring to aſcertain the general effects of ſubmerſion on living animals, and to trace the connection of theſe with the action of the water on the body. With this view, he took a large tranſparent glaſs bell; and when it was inverted and filled with water, he put into it, at different times, cats, dogs, rabbits, and other ſmall animals, which he confined till they had the appearance of being dead. While they were confined in the bell, he attended particularly to the changes which took place; and as ſoon as they were taken out, he opened the head, breaſt, and belly, and examined the internal parts. As the reſult of theſe obſervations, we are preſented with the following deſcription of appearances.

When an animal is immerſed in water, the pulſe becomes weak and frequent; ſigns appear of anxiety about the breaſt, and he ſtruggles to relieve it. In theſe ſtruggles he riſes towards the ſurface of the water, and throws out

out a quantity of air from his lungs. After this the anxiety increaſes, the pulſe becomes weaker, the ſtruggles are renewed with more violence, he riſes towards the ſurface again, throws out more air from his lungs, and makes ſeveral efforts to inſpire, in ſome of which a quantity of water commonly paſſes into his mouth. The ſkin then becomes blue, particularly about the face and lips, the pulſe gradually ceaſes, the ſphincters are relaxed, and he falls down without ſenſation and without motion.

Upon opening the body, the external ſurface of the brain appears of a darker colour than uſual; but the veſſels are not turgid with blood, nor are there any marks of extravaſation about them. The cavity of the lungs contains a conſiderable quantity of frothy fluid; and the pulmonary arteries and veins are filled with black blood throughout their whole extent. The right auricle and ventricle of the breaſt are ſtill contracting and dilating; the left ſinus venoſus and auricle move feebly, but the left ventricle is at reſt. The right auricle and ventricle are filled with black blood, and likewiſe the left ſinus venoſus and left auricle;

ricle; but the left ventricle is only about half filled with the ſame coloured blood. The trunks, however, and ſmaller branches of the arteries proceeding from the left ventricle, contain alſo a quantity of this black blood.

Among modern philoſophers, theſe appearances have been attributed entirely to the effects which the water produces on the lungs; either directly, by entering into their cavity; or indirectly, by preventing the entrance of the air of the atmoſphere: but neither opinion had been hitherto eſtabliſhed by its partizans. Dr Goodwyn next attempts, therefore, to decide this queſtion by experiment. He filled his glaſs bell with ink, and immerſed a dog in it. As ſoon as his ſtruggles ceaſed, he was taken out and examined. A ſmall quantity of frothy fluid was found in the lungs, and it was coloured with ink. The ſame reſult was obſerved, when this experiment was repeated on three other dogs, and on three cats.

But although theſe experiments demonſtrated, that ſome of the ink had paſſed into the lungs of theſe animals; and although it may from thence be inferred, that a quantity

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of water commonly paſſes into the lungs of animals that are drowned; yet Dr Goodwyn ſuſpected, that it might enter into the lungs by its own gravity, after the ſtruggles of the animal have ceaſed. To determine this point, he performed the following experiment. He paſſed a ligature round the trachea of a dog, and ſtrangled him. As ſoon as the animal ceaſed to move, he plunged it into a quantity of ink, and confined it there for ſeveral minutes. On examining the lungs afterwards, Dr Goodwyn found no ink in them. Thus, then, it appeared, that the ink did not enter the lungs by its own gravity.

But ſuppoſing it to enter the lungs during efforts to inſpire, it ſtill became a queſtion, whether it was ſufficient to produce the changes which took place in conſequence of ſubmerſion. To determine this queſtion, our author next endeavoured to aſcertain the quantity of water that paſſes into the lungs during ſubmerſion, and the changes that are produced on the body by the introduction of an equal quantity of a ſimilar fluid.

To determine this, it was neceſſary to employ, in experiment, ſuch fluids as have no diſ-

poſition to unite with the pulmonary mucus, but which, from remaining in the lungs in a ſeparate ſtate, may be again collected. He therefore filled a glaſs bell with quickſilver, and immerſed a cat in it. When the body was taken out, he found half an ounce of quickſilver in the cavity of the lungs, and an ounce of a frothy fluid tinged with red blood. Upon repeating this experiment with other animals, he found, in different caſes, from one to five drams of quickſilver, and from half an ounce to an ounce of frothy mucus; but in ſome of the experiments, no quickſilver was found.

Thus, then, it appears, that the quantity of fluid which enters the lungs on ſubmerſion, is very inconſiderable; and, to determine whether it was capable of producing thoſe changes which took place, he confined a cat in an erect poſture, and made a ſmall opening into the trachea, by cutting out one of the cartilaginous rings. Through this opening he introduced two ounces of water into the lungs. The animal had immediately a difficulty of breathing, and a feeble pulſe. But theſe ſymptoms were ſoon abated; and it lived ſeveral hours afterwards, without much apparent inconvenience.

inconvenience. After this he ſtrangled it, and found two ounces and a half of water in the lungs. From a repetition of this experiment in different caſes, it appeared, that a quantity of water introduced into the lungs, greater than what is found in them upon ſubmerſion, does not produce in the body thoſe changes that take place in drowning.

From the whole of theſe experiments, then, taken together, Dr Goodwyn concludes, that a ſmall quantity of water commonly does paſs into the lungs in drowning; that this water enters the lungs during efforts to inſpire; that, mixing with the pulmonary mucus, it occaſions the frothy appearance mentioned by authors; but that the whole of this fluid in the lungs is not ſufficient to produce the changes which take place in drowning. Hence he thinks it follows, that the water produces thoſe changes which take place in drowning, by excluding atmoſpheric air from the lungs.

To diſcover in what manner the excluſion of atmoſpheric air operates, Dr Goodwyn next endeavours to determine the mechanical effects of the air on the lungs in reſpiration. With this view, he firſt endeavours to aſcer-

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tain the different quantities of air in expiration and inſpiration, and the proportional dilatation of the lungs in each of theſe ſtates; and then to determine the effects of theſe different degrees of dilatation on the pulmonary veſſels, and on the current of blood circulating through them.

To meaſure the quantity of air taken into the lungs after a complete expiration, Dr Goodwyn procured a dead body of an ordinary ſtature, and applied a cloſe compreſs upon the ſuperior part of the abdomen, to fix the diaphragm in its ſituation. He then made a ſmall opening into the cavity of the thorax on each ſide, and upon the moſt elevated part. The lungs immediately collapſed; and conſequently, the air which they contained was expelled. Water was next introduced at theſe openings, till the cavity was filled, and the contents of the water were 272 cubic inches. The lungs of this body, therefore, contained 272 cubic inches of air, in a ſtate of complete expiration. But as this experiment was made on a perſon who had been hanged, and while, therefore, an opportunity might not be afforded for a complete expiration before death, he repeated it on ſeveral adult ſubjects, who died of natu-

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ral deaths, and he found the quantity of air which the lungs ſtill contained after complete expiration, to vary from 90 to 125 cubic inches. Thus, then, it appears, that, in every caſe, the lungs contain a conſiderable quantity of air after a complete expiration: and although this muſt neceſſarily vary much in different ſubjects, in proportion to the capacity of the thorax; yet he concludes, that, at a medium, the lungs of the human ſubject contain 109 cubic inches of air, after complete expiration.

Dr Goodwyn next proceeded to meaſure the quantity of air taken into the lungs at an ordinary inſpiration; and, by means of an apparatus ingeniouſly contrived for the purpoſe, to which he gives the name of the Pneumatic Veſſel, but of which it would be impoſſible to give our readers any accurate idea, without an engraving, he found, that the quantity of air taken in by an adult perſon of a middle ſtature, at an ordinary inſpiration, after making full allowance for the rarefaction taking place in the lungs, and other circumſtances, was only about fourteen inches. From this he thinks that a clear refutation is afforded of

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the doctrine of Dr Haller and others, reſpecting the influence they have ſuppoſed reſpiration to have upon circulation. And, from a number of very ingenious experiments, of which we cannot here propoſe to give a particular detail, he concludes, that, at a medium, after complete expiration, the lungs contain 109 cubic inches of air, and that this quantity receives an addition of fourteen cubic inches by inſpiration; that the dilatation of the lungs, after expiration, is to their dilatation after inſpiration, as 109 to 123; that the blood circulates through the pulmonary veſſels in all degrees of natural reſpiration; and that the circulation through them, after expiration, is ſufficiently free to keep up the health of the ſyſtem. Hence he thinks it follows, that the dilatation of the lungs is not the final cauſe of reſpiration.

That this concluſion of Dr Goodwyn's is upon the whole well-founded, we will not pretend to deny; and we muſt alſo acknowledge, that although the reſult of his experiments be in ſome reſpects rather ſurpriſing to us, yet we cannot pretend to point out any particular error or fallacy in them. But, admitting that the

the dilatation of the lungs is not the final cauſe of reſpiration; yet, that free circulation and reſpiration are ſomehow inſeparably connected, is, we think, proved beyond all diſpute, from the influence which even a temporary voluntary ſuſpenſion of reſpiration has in producing an accumulation of blood in the face, and other evident marks of obſtructed circulation. And we may alſo add, that, judging from the ſtate of the pulſe in theſe caſes, we are very doubtful whether this accumulation can be explained upon thoſe principles which Dr Goodwyn afterwards endeavours to eſtabliſh.

After theſe obſervations on the mechanical effects of the air, Dr Goodwyn next endeavours to determine its chemical influence on the lungs in reſpiration. Common atmoſpheric air, our author obſerves, is now ſuppoſed to conſiſt of nearly two-thirds of phlogiſticated air, one third of dephlogiſticated air, and a very ſmall quantity of fixed air. When it is inſpired into the lungs, and again expired into a receiver, it is found, that the quantity of dephlogiſticated air is diminiſhed, the quantity of fixed air increaſed, and that the phlogiſticated remains the ſame. Dr Goodwyn found, from experiment, that the diminution of the dephlogiſticated,

dephlogiſticated, and the increaſe of the fixed air, even in a ſingle reſpiration, is conſiderable; and he alſo found, that the diminution of the dephlogiſticated air, and the increaſe of the fixed air was conſtant and ſucceſſive, in the ſame quantity of air frequently reſpired; but that the changes in the ſucceeding reſpirations bore no proportion to the changes in the firſt. Since, therefore, theſe changes are conſtant and uniform, they muſt, he thinks, be connected with ſome correſponding change in the lungs, equally conſtant and uniform; and there is, he obſerves, no ſubſtance in the lungs in which we can expect to find ſuch correſponding changes, except in the blood which circulates through them.

It had been long ago obſerved by Lower, in his Treatiſe de Corde, that the blood from a wound of the pulmonary vein, was florid; but that, before it entered the lungs, it was black. Hence he attributed the florid colour to the action of reſpiration; and this opinion ſeems now to be generally received. Dr Goodwyn examined theſe facts with particular attention, in dogs, toads, lizards, and other animals; and all his obſervations tended to confirm the opinion of Lower, that the blood

acquires

acquires a florid colour in paſſing through the lungs, and that this colour is produced by the chemical action of the air. He found, by experiments very ingeniouſly deviſed for the purpoſe, that this change of colour in reſpiration, does not ariſe from the ſeparation of fixed air, in its entire ſtate, from the blood; and that it could not be attributed to the chemical action of the phlogiſticated air; but that it was produced by the chemical action of the dephlogiſticated air. He found, that when the dephlogiſticated air is gradually diminiſhed, the blood paſſing through the veſſels of the lungs does not undergo the changes of colour which take place in ordinary reſpiration; and he infers, that the ſymptoms which follow obſtructed reſpiration, muſt be attributed to this particular quality of the blood.

From the experiments which we have here alluded to, and a variety of others, into the detail of which we cannot propoſe to enter, Dr Goodwyn, upon the whole, infers, that a quantity of dephlogiſticated air is ſeparated from the atmoſpheric air in the lungs, by reſpiration, and a quantity of fixed air is added to it: that the dephlogiſticated air exerts a chemical

chemical action on the pulmonary blood, in conſequence of which, that blood acquires a florid colour: that, in ordinary reſpiration, this florid colour is ſeen diſtinctly as the blood paſſes into the left auricle; and the heart contracts then with its natural force and frequency: that when reſpiration is obſtructed, the florid colour is gradually diminiſhed, and the contractions of the left auricle and ventricle ſoon ceaſe: and finally, that this ceſſation of contraction ariſes from a defect of a ſtimulating quality in the blood itſelf. Hence, he thinks, it follows, that the chemical quality which the blood acquires in paſſing through the lungs, is neceſſary to keep up the action of the heart, and conſequently the health of the body.

After theſe obſervations on the mechanical and chemical effects of the air on the lungs, in reſpiration, Dr Goodwyn next attempts to determine the nature of the diſeaſe produced by ſubmerſion; and he thinks, that the ceſſation of the heart's motion may be fully accounted for, from the action of water preventing the entrance of air into the lungs. As ſoon as the heart ceaſes to contract, and to propel the blood to the head, all the intellectual

tellectual operations ceaſe, ſenſation and voluntary motion are ſuſpended, and the external ſigns of life diſappear; and the black blood remaining at reſt in the veſſels, particularly in the ſmaller branches of the arteries and veins, occaſions the blue colour upon different parts of the body, but eſpecially about the face and lips, where the number of ſuperficial veſſels is moſt conſiderable. He obſerves, that after the left auricle and ventricle have ceaſed to contract, the right auricle and ventricle are ſtill expoſed to the action of thoſe means which naturally excite them to contraction. From this, he explains their continuing to contract for ſeveral minutes; and by propelling the black blood into the pulmonary arteries, they occaſion the accumulation in the pulmonary veſſels, and the livid colour on the lungs. But, from the reſiſtance to the entrance of the blood into the pulmonary arteries, and from the want of the ſynchronic aſſiſtance of the left ventricle, the contractions of the right muſt, he thinks, become gradually more feeble till at length they ceaſe; which will alſo, in part, ariſe from its being greatly diſtended with blood.

After thus endeavouring to trace all the ſymptoms, to the obſtruction of reſpiration as their proper cauſe, he next proceeds to aſcertain the name of the diſeaſe, and the place it ſhould have in noſology. After objecting to the names *Syncope*, *Aſphyxia*, and *Apoplexia*, which have been applied to it, our author thinks on miſtaken views, he obſerves, that, if we are to conſider the primary morbid affection of the body as the diſeaſe itſelf, and all the conſequent appearances only as ſymptoms, the diſeaſe is in the blood, and conſiſts in the preſence of black blood in the left ſide of the heart and arterial ſyſtem. It may therefore, he thinks, with propriety be ſtyled *Melanæma*, which he defines, "impedita ſanguinis venoſi in arterioſum converſio, cujus "ſigna ſyncope et livor cutis."

To this genus of melanæma, beſides the affection from drowning, we may alſo, he thinks, refer the affection brought on by hanging, by breathing fixed or phlogiſticated air, or the like; as theſe, in his opinion, are all produced by this black blood going into the heart unchanged by reſpiration. Thus, under the

the preſent generic term, he propoſes to include the following ſpecies:

Melanæma à ſubmerſione,
——— à ſuſpenſione,
——— ab inſpiratione aeris fixi,
——— ab inſpiratione aeris phlogiſticati.

As in this diſeaſe there is no pyrexia, nor any primary neuroſis, and as the alteration of colour of the ſkin is a conſtant ſymptom, he thinks that the genus Melanæma would be beſt referred to the claſs Cachexia, and order Impetigo. He concludes, however, with obſerving, that as the name and arrangement of a diſeaſe are only ſecondary objects, when compared to aſcertaining its nature, it is perhaps unneceſſary to ſtruggle in theſe matters againſt vulgar prejudice. Hence he thinks that no prejudice will reſult from retaining the accuſtomed title of *Aſphyxia*, with ſuch an addition as will expreſs the primary affection. On this ground, he thinks the diſeaſe produced by ſubmerſion may be defined, " Aſphyxia à ſanguine venoſo in auri-
" culum et ventriculum ſiniſtros tranſeunte."

After thus endeavouring to determine the nature of the diſeaſe produced by ſubmerſion,

he proceeds to inveſtigate the condition of the body in this diſeaſe, and the means of diſtinguiſhing it from death itſelf. After ſome obſervations upon heat and reſpiration, the external circumſtances which excite to action that principle which is the immediate cauſe of all the functions that are performed in health, he enumerates ſeveral facts, ſhowing the effects produced on the living body by the privation of heat and reſpiration: and from theſe he concludes, that the heart is the great ſeat of the principle of life in all the more perfect animals; and that the contraction of the heart, with the ordinary ſtimulus, is the only mark of the preſence of this principle. Life, therefore, in the more perfect animals, may, he thinks, be defined, the faculty of propelling the fluids through the circulating ſyſtem; and he concludes, that when the functions of an animal are ſuddenly ſuſpended, and the body puts on the appearance of death, it is always in our power to determine whether it be really dead, by reſtoring the temperature, and by inflating the lungs with proper air.

Dr Goodwyn concludes this treatiſe by endeavouring to determine the beſt means of curing

curing this diſeaſe, when the body is ſtill in a recoverable ſtate. Here, however, after having anticipated his remarks in different parts of the eſſay, he adds only a few obſervations on the manner of conducting the application of the means of cure.

He obſerves, that to recover the ſuſpended functions, we muſt renew the contractions of the heart, which may be done by reſtoring to the body its heat and reſpiration. The firſt buſineſs, therefore, is to examine the temperature of the body; and if it be conſiderably below 98°, to order the application of heat. In this, however, ſome caution is neceſſary. In attempts to recover the hybernating animals from their winter torpor, it is a well-known fact, that when the temperature of the body is reduced near the freezing point, if heat be applied either very ſuddenly or in a very high degree, the principle of life is ſoon deſtroyed; whereas, if it be applied gradually, and in a low degree, it is excited to action, and the functions are ſoon reſtored. In Dr Goodwyn's opinion, it can ſcarcely be unſafe to conclude, that heat will produce the ſame effects on the body in this diſeaſe as in torpid

animals. To favour the recovery, then, heat ſhould here be applied very gradually and very uniformly. It may be raiſed, he obſerves, to 98°, but not farther than 100°.

After the body is uniformly warmed, if the patient can make no attempt to inſpire, we muſt next proceed to inflate the lungs with air. In this diſeaſe, as has already been obſerved, the pulmonary veins, the ſinus venoſus, and left auricle, contain a quantity of blood, which has paſſed through the lungs without undergoing the neceſſary change. The firſt object, therefore, in inflating the lungs, is to change the quality of the blood in theſe veſſels, to fit it for exciting contractions.

For this purpoſe, a great quantity of air muſt be introduced at each inflation, by which means ſome of it will paſs into the more remote cells. Dr Goodwyn propoſes that upwards of 100 cubic inches of air ſhould be introduced into the lungs of an adult at each inflation, and it muſt be carefully drawn out again before more be introduced. But, when a quantity of water has been inſinuated into the ſmall branches of the trachea, and into

the

the air-cells, although the lungs be inflated with the utmoſt care, it may be impoſſible, on this account, to apply the freſh air ſufficiently near the ſinus venoſus and left auricle, to change the quality of the blood they contain. Some of this water muſt therefore be removed before the air be introduced.

Dr Goodwyn here preſents us with a particular deſcription of an inſtrument, which ſerves the purpoſe both of inflating the lungs with air, and of extracting water from them. But without the engraved figure of the inſtrument, which is annexed to his eſſay, this deſcription cannot be underſtood. For this inſtrument, Dr Goodwyn acknowledges himſelf indebted to that ingenious philoſopher Dr Nooth, who has already enriched the arts by ſeveral valuable inventions.

If after the extraction of the water, when neceſſary, the inflations be continued carefully and ſlowly for ſeveral minutes, the contractions of the heart will be gradually renewed, and the other functions will ſoon return, without any other inconvenience than a difficult

and ſtertorous reſpiration, which often continues for a ſhort time, ariſing from ſome water remaining in the lungs, which, however, will be gradually evaporated by the expired air.

In ſituations where dephlogiſticated air can be obtained, it ſhould always, Dr Goodwyn obſerves, be preferred to atmoſpheric air. For he remarked, that, in the caſe of ſmall animals, the recovery by means of it was more expeditious than where atmoſpheric air was uſed. He candidly, however, acknowledges, that he had never been able to recover an animal with dephlogiſticated air, where good atmoſpheric air had been ineffectual.

Beſides theſe, Dr Goodwyn obſerves, that a variety of other practices have been recommended. Some of them, however, have, in his opinion, been ſuggeſted from a falſe notion of the nature of the diſeaſe; as bleeding, friction, and ſuccuſſion: Others from a miſtaken opinion of the principal ſeat of life; ſuch as the application of different ſubſtances, to the ſkin, the ſtomach, the inteſtines, the parts of generation, the noſe, the fauces, &c.:

&c.: And a third ſet, from an ignorance of the moſt effectual means of ſoliciting the principle of life into action; as the employment of electricity, alcohol, volatile alkali, tobacco, eſſential oils, and all the acrid and ſtimulating ſubſtances. None of theſe, in our author's opinion, ſeem fitted to excite the natural contractions of the heart by direct agency: At the ſame time, he allows, that as ſome of theſe practices are now introduced on the authority of ſeveral learned Societies, experiment alone ought to decide concerning their efficacy. But, as far as his own experiments go, he thinks, that if we allow theſe remedies all the efficacy that partiality can claim, it can only be ſaid, that they ſometimes produce, by indirect means, what may always be done directly by the method he has before recommended.

That a preference may be due to the proper application of heat and inflation, we will not deny; but other practices, which in any degree contribute to the renewal of circulation or reſpiration, or to ſolicit the principle of life into action, ſhould not, we think, be neglected; eſpecially, as ſeveral of them can be

be had recourſe to, in conjunction with the practices on which Dr Goodwyn places his chief reliance, and may even tend to aſſiſt their influence. Upon the whole, however, there can be little doubt, that, in the treatiſe before us, Dr Goodwyn has diſplayed much ingenuity and judgement, and has thrown great light upon the ſubject of which he treats.

VIII.

VIII.

An Eſſay on the Recovery of the apparently Dead. *By* Charles Kite, *Member of the Corporation of Surgeons in* London, *and Surgeon at* Kent; *being the Eſſay to which the Humane Society's Medal was adjudged. To which is prefixed* Dr Lettſom's *Addreſs on the delivery of the Medal.* 8vo, London.

THIS diſſertation, as well as that of which we have juſt given an analyſis, was alſo ſubmitted to the conſideration of the Humane Society of London, and by them honoured with a prize-medal; which, as appears from Dr Lettſom's addreſs, prefixed to this work, was preſented by that gentleman to the author, at the ſame time that he delivered their prize-medal to Dr Goodwyn; and in this, as well as in the former diſſertation, the diſcerning reader will find many remarks well deſerving his attention.

Mr

Mr Kite ſets out with obſerving, that he conceives the difference between what has been called ſuſpended animation and poſitive death, to reſt entirely on one circumſtance,—the preſence or abſence of the principle of irritability. When it is preſent, though the appearances of death may be ſtrong, and though the vital, natural, and animal functions may ſeem aboliſhed, yet animation can only be ſaid to be ſuſpended; but when it is abſent, the body is to be conſidered as abſolutely and irrecoverably dead. The powers of life may be ſuſpended by various cauſes; but our author obſerves, that, in the treatiſe before us, he means principally to conſider drowning as being the cauſe of ſuſpended animation which moſt frequently occurs.

In treating of this ſubject, he firſt proceeds to inveſtigate the internal immediate cauſe of death, and the manner in which this is effected in thoſe who die by drowning. The principal cauſes to which the death of drowned perſons has been attributed, may, our author thinks, be comprehended in the four following: 1*ſt*, That ſpecies of apoplexy which ariſes from an over-diſtenſion of the ſtomach:

2*dly*,

2*dly*, The blood being rendered unfit for performing its offices, by the want of the action of the air in reſpiration: 3*dly*, Water in the lungs; and, 4*thly*, A contraction of parts about the larynx, preventing the air from paſſing into, or out of the lungs. After ſtating objections to the three former of theſe ſuppoſitions, he is inclined to adopt the laſt. But it ſtill remains to enquire, in what manner this ſtoppage of reſpiration acts, ſo as to occaſion death.

Some have ſuppoſed, that the ſtoppage of reſpiration produces death, from the incloſed air being rendered highly phlogiſticated; others, that death happens from a ſuffocation, or congeſtion of blood about the heart and lungs; while a third ſet maintain, that death is to be aſcribed to the induction of apoplexy. This laſt opinion Mr Kite endeavours to ſupport by many arguments; and theſe, into the detail of which we cannot here propoſe to enter, he thinks ſo ſtrong, as to ſatisfy even the greateſt ſceptic. We muſt however acknowledge, that notwithſtanding all Mr Kite has ſaid upon this ſubject, our doubts are by no means entirely removed; and notwithſtanding the

the plauſible arguments which have been brought in favour of his opinion, as well as of that of Dr Goodwyn, further obſervations and experiments, in our opinion, are ſtill wanting, for aſcertaining beyond all doubt the immediate cauſe of death from drowning.

Mr Kite next proceeds to make ſome obſervations on the uncertainty of recovery; and he endeavours to inveſtigate the cauſes from which this uncertainty proceeds. In many inſtances, he obſerves, the cauſes producing a fatal termination are very obvious, ſuch as exceſſive eating or drinking before the accident, previous diſeaſe, or the like. But, beſides theſe circumſtances, from his former reaſoning upon the ſubject he concludes, that thoſe who have any cauſe exiſting in their habit, which prediſpoſes the body to a compreſſed ſtate of the brain, or an apoplexy, will be the firſt to loſe at leaſt the appearance of vitality. Hence he enumerates the various prediſpoſing and exciting cauſes of apoplexy; as, large heads, ſhort necks, violent paſſion, intoxication, and the like, as being circumſtances which will haſten a fatal concluſion. Beſides theſe, although Mr Kite does not adopt the opinions of the ancients

cients reſpecting temperaments, yet he imagines that theſe temperaments may be eſtabliſhed; of each of which he gives a particular deſcription, under the titles of the *tonic*, the *atonic*, and the *irritable*.

Perſons of the irritable conſtitution, are violently affected by cauſes making little impreſſion either on the mind or body of thoſe of a different conſtitution. Hence they will, he thinks, be much ſooner deſtroyed by drowning, than thoſe whoſe nerves are leſs delicate; and as the atonic conſtitution is leſs connected with apoplexy than the tonic, while the nervous ſyſtem is not to be rouſed into ſuch violent actions as in the irritable, this habit will, he thinks, allow of being longer under water than either of the former. But with reſpect to this diſeaſe, the irritable conſtitution, he obſerves, is not without its advantages; for it appears from many experiments, that the peculiar property of irritability is capable of being excited after death, with greater eaſe or difficulty, in proportion as the animal was more or leſs irritable in a ſtate of health. Hence, while the irritable are moſt liable to be ſpeedily drowned, they will alſo have a diſpoſition

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to be ſpeedily recovered: On the contrary, thoſe of an atonic habit, as they are longer in drowning, will be longer before they are recovered. The obſervations and reaſoning of Mr Kite on this ſubject, agree very much with thoſe of Mr Bucquet, recorded in the Memoirs of the Royal Society of Medicine of Paris; and, in our opinion, are in general well-founded.

Mr Kite next proceeds to enquire, whether there be any poſitive ſign of the abſolute extinction of life after drowning. After making ſome remarks on the ſtoppage of the pulſe and reſpiration, on the glaſſineſs of the eyes, on putrefaction, and other ſimilar circumſtances, which have been conſidered by ſome as certain indications of death; Mr Kite gives it as his opinion, that no poſitive ſign of the abſolute extinction of life has hitherto been diſcovered. Death, he obſerves, may be diſtinguiſhed into two ſpecies, apparent and abſolute. By apparent death, he means a ſtoppage of circulation, reſpiration, and the action of the brain; the irritability, however, or that peculiar property of the muſcular fibres which enables them to contract on being irritated, ſtill remaining.

maining. By abſolute death, he underſtands not only a ceſſation of the vital, natural, and animal functions, but the entire deſtruction of the principle of irritability. Thoſe ſigns, therefore, which indicate the total abſence of irritability, may be deemed the moſt certain ſigns of death.

He is of opinion, that the pupil of the eye being contracted, eſpecially if it has for ſome time before been obſerved to be much dilated, will, in caſes of ſubmerſion, yield a pretty certain indication of death. He thinks alſo, that ſome dependence may be put on one of the pupils being more contracted than the other; as it is from this preſumable, that the influence of the brain and nerves is entirely annihilated, and the irritable principle utterly deſtroyed. Death may alſo be inferred from a proof of the poſitive extinction of heat, when it is found that no change is induced in a thermometer introduced three or four inches into the rectum. Another mark, on which our author places dependence, is the proof of water in the lungs, which he thinks may be inferred from artificial reſpiration forcing away a quantity of frothy water by the mouth. But he con-

ſiders the electrical ſhock as affording the moſt diſcriminating characteriſtic of any remains of life. As long as it produces contractions, the perſon may be ſaid to be in a recoverable ſtate; but when that effect has ceaſed, no doubt, Mr Kite thinks, can remain of the perſon being abſolutely and poſitively dead.

Mr Kite next proceeds to treat of the method of recovery; and into this ſubject he has entered at great length, preſenting the reader with many important obſervations. But the nature of our work will not allow us to enter minutely into every particular. We ſhall therefore content ourſelves with giving a general view of his plan of cure, which, at the end of his obſervations on this ſubject, he has thrown into the following tabular form.

In the recovery of perſons apparently dead from drowning, there are two indications:

I. To remove the compreſſion of the brain, and congeſtion about the heart and lungs.

II. To excite the irritability of the muſcular fibres.

I. The removing the compreſſion of the brain,

brain, and congeſtion about the heart and lungs, may be effected by

1. Bleeding, either
   a. From the jugular veins, or
   b. Cupping and ſcarifications.
2. Artificial reſpiration, with
   a. Common air,
   b. Warm air from the lungs,
   c. Dephlogiſticated air,
   d. Air loaded with acrid and irritating effluvia; as,
      1. Of tobacco,
      2. Of volatile alkali,
      3. Of ſpirit of ſalt,
      4. Of ſpirit of ſulphur.
3. Proper poſition.

II. The exciting the irritability of the muſcular fibres may be done by,

1. General ſtimulants; as,
   a. The proper application of heat, by
      1. Warm room,
      2. Warm bath,
      3. Warm grains,
      4. Natural warmth,
      5. Warm ſubſtances to various parts.

b. Electricity.

c. Frictions with

1. Coarſe cloths,
2. Flannels,
3. Hair-cloth,
4. Bruſhes,
5. Camphorated oil,
6. Concentrated vinegar,
7. Volatile liniment,
8. Ardent ſpirits,
9. Muſtard,
10. Common ſalt.

d. Gentle concuſſions.

2. Local ſtimulants.

a. Aromatic and irritating medicines thrown into the ſtomach; as,

1. Emetics,
2. Etherial ſpirits,
3. Eſſential oils,
4. Volatile alkali,
5. Ardent ſpirit.

b. Aromatic and irritating medicines injected into the inteſtines; as,

1. The oil, decoction, powder, or fume of aromatic ſubſtances.

c. Particular

c. Particular ſtimuli adapted to different organs of ſenſe; as,

1. Light thrown on the eye, either that
   aa. Of a taper, or
   bb. Of the concentrated rays of the ſun.
2. Great noiſes directed to the ears.
3. Acrid liquors applied to the tongue and fauces; as,
   aa. Volatile alkaline vapour,
   bb. Juice of onions or garlic,
   cc. Muſtard or pepper.
4. Sternutatories applied to the noſtrils; as,
   aa. Strong ſnuff,
   bb. Volatile alkaline vapour.
5. Scarifications, or the actual cautery to the ſkin.

On theſe different practices Mr Kite has offered many obſervations; and although we are not diſpoſed to agree with him in every particular, as, for example, in his recommendation of blood-letting, even at an early period, yet his remarks in general appear to us to be very judicious and proper; and moſt readers

may derive inſtruction from the peruſal of them.

To the table which contains the general plan of cure, Mr Kite has annexed ſome others. In one of theſe we have a ſketch of a plan for obtaining accurate hiſtories of perſons apparently dead from drowning. Here, however, in our opinion, he has deſcended to a minuteneſs, tending rather to embarraſs than to be uſeful. He has pointed out upwards of two hundred particulars claiming attention in ſuch hiſtories, many of which, in by much the greateſt number of caſes, would tend only to lengthen the hiſtory, without ſerving any uſeful purpoſe. In another table he has given a view, extracted from the Reports of the Humane Society, of the length of time for which each patient had been under water, and the number of minutes required for his recovery; a view which, we are inclined to think, is neither void of curioſity nor utility.

After treating thus fully of the ſubject of drowning, Mr Kite next offers ſome obſervations on the ſuſpenſion of the vital powers, from hanging. After mentioning the different ideas that have prevailed, and ſtill contin-

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nue to prevail, on this ſubject, Mr Kite cannot, he tells us, with Haller, De Haen, and others, admit the ſtoppage of reſpiration to be the ſole cauſe; yet he does not heſitate in allowing it to be a principal one. But, in place of adopting the opinion of the authors mentioned above, who ſuppoſe that the cauſe of death reſides in the cheſt, he joins in opinion with Boerhaave, Wepfer, Littre, and others, who attribute it to apoplexy. Where, therefore, attempts are made to recover perſons after hanging, they are, he thinks, to be treated in preciſely the ſame manner as thoſe who ſuffer from drowning. Attempts ſhould be made to remove the compreſſion of the brain, and excite the irritability of the muſcular fibres; and theſe ends are to be accompliſhed by the ſame means which have already been mentioned, when treating of the recovery of the drowned.

We have next ſome obſervations on the ſuſpenſion of the vital powers, by noxious vapours. From a variety of circumſtances, he is induced to believe, that mephitic air occaſions apoplexy and death, in two ways; firſt, by affecting the nerves of the trachea, in

ſuch a manner as to render the muſcles, ſubſervient to reſpiration, paralytic; and ſecondly, by its ſedative property deſtroying the action of the brain and nervous ſyſtem. In the treatment, our attention ſhould, according to Mr Kite, be immediately directed to correcting and expelling ſuch noxious vapours as may ſtill remain in the lungs; and this, he tells us, is beſt done by inflating them with dephlogiſticated or pure air. In other reſpects, the treatment of thoſe ſuffocated by mephitic vapours, ſhould be exactly conformable to the directions given for the recovery of the drowned.

In treating of the ſuſpenſion of vital powers, from ſyncope, Mr Kite confines his obſervations to thoſe who are in that ſtate from loſs of blood. Loſs of blood, he thinks, probably does operate in many ways with which we are unacquainted, ſo as to aſſiſt in producing ſyncope; but it appears to ariſe more particularly from the want of a ſufficient quantity of that fluid in the veſſels of the head, to preſerve the brain in a due degree of firmneſs and tenſion. In treating caſes of this kind, the firſt object is to prevent

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any farther return of the expence of blood; and then to produce ſuch a contraction of the veſſels as will make them act on the contained fluid. This, he thinks, is chiefly to be effected by the application of cold, by frictions, and by tight bandages. With a view alſo to excite the irritable principle, recourſe may be had to the inflation of the lungs, the injection of aromatic or irritating medicines into the ſtomach, the dilatation of the inteſtines, by large quantities of cool liquids thrown into them, certain ſtimulants applied to different organs of ſenſe, and the like.

Neither philoſophers nor pathologiſts are altogether agreed as to the manner in which thoſe people die who are killed by lightning. From conſidering all circumſtances, Mr Kite is inclined to believe, that it exerts its principal effects on the brain and nervous ſyſtem, in ſuch a manner as materially to diminiſh, or totally to overthrow the principle of irritability; but as, according to its degree of ſtrength, it operates differently in producing theſe effects, he thinks it adviſeable to divide them into the following claſſes: 1*ſt*, When the ſhock is moderate, it merely ſuſpends the functions of life:

2*dly*,

2*dly*, When it is ſtronger, it deſtroys the principle of irritability; and, 3*dly*, When in the moſt violent degree, it lacerates thoſe parts of the body through which the fluid paſſes.—Thoſe only who come under the firſt claſs, can be conſidered as in a ſtate from which a recovery can be expected. In recoverable caſes, Mr Kite thinks that our attention ſhould be chiefly directed towards exciting and reſtoring the principle of irritability. For this purpoſe, nothing ſeems to him better fitted than the application of electricity, the very agent which occaſioned the evil; becauſe, when moderately uſed, it is well known that it is the moſt powerful ſtimulus we can apply; that it pervades the internal as well as the external parts; and that, beyond every thing, it poſſeſſes the property of exciting the irritability of the muſcular fibres. But, beſides this, he thinks that benefit may alſo be derived from frictions, emetics, and indeed all the other remedies recommended for exciting the irritable principle in the drowned.

From the conſideration of the advantages which have ſometimes been derived from the operation of the trepan in caſes of epilepſy, in

caſes

caſes of concuſſion of the brain without any external wound, and others of a ſimilar nature, Mr Kite is prompted to ſuggeſt this operation as one that may be of ſome ſervice in certain caſes of ſuſpended animation. He indeed acknowledges, that hitherto he has no experience of it; but at the ſame time he flatters himſelf, that the novelty of it will not prove any impediment to its receiving an impartial trial; ſince there can be no compariſon between the inconvenience which may poſſibly ariſe from it, and the deſtruction which moſt probably will enſue, ſhould that operation be omitted. We do not however ſuppoſe that Mr Kite has the moſt diſtant idea of poſtponing other practices, till he has tried the ſucceſs of this; and although there are perhaps ſome circumſtances in which this operation may be of advantage, yet we muſt own, we doubt much whether any caſe will ever be recovered by means of the trepan, which might not be recovered without it.

To theſe obſervations on different caſes of ſuſpended animation, Mr Kite adds a few remarks on the preſervation of thoſe unborn children who ſurvive the death of the mother.

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Of theſe he thinks many might be preſerved to ſociety by the timely uſe of the Cæſarean operation. The only objection which in his opinion can be urged againſt it, is, that it may be performed when the mother is not really dead, but in a recoverable ſtate. And this objection, to us, we own, appears a very ſtrong one indeed; for the life of a mother is very generally of ſo much more importance to ſociety than that of an unborn infant, that even the moſt diſtant chance of the recovery of the former, is not to be relinquiſhed from any expectation whatever with regard to the latter; and when we read of great numbers of children preſerved by this means at Montreal, Caltaniſſecta, Sambuca, and other places, it is, we think, highly probable, that the operation was in many inſtances precipitately had recourſe to at a very improper time; and that the efforts of the operator would have been much better employed in endeavouring to reſtore the life of the mother. When, however, an infant is born apparently in a dead ſtate, we muſt give our moſt hearty aſſent to the recommendation of Mr Kite, that the proper means of reſtoring life to it are not to be neglected; and it

is, we think, with great propriety that he adviſes the application of theſe means, in every caſe where the cuticle is not detached, or where, upon the application of the electrical ſhock, the fibres exhibit any tendency to contraction.

To this treatiſe is added an appendix, containing a deſcription of a pocket-caſe of inſtruments, for the recovery of the apparently dead. This deſcription is illuſtrated by engravings, without which it would be impoſſible to convey to the reader any proper idea of it. We ſhall only obſerve, that the contrivance, a conſiderable part of the merit of which Mr Kite attributes to that able artiſt Mr Savigny, ſhews much ingenuity and judgment; and this apparatus cannot be too ſtrongly recommended to thoſe who are placed in ſituations where accidents from drowning frequently occur.

IX.

IX.

An Account of a Method of making a Wine called by the Tartars Koumiſs; *with Obſervations on its uſe in Medicine. By* John Grieve, *M. D. F. R. S. Ed. and late Phyſician to the Ruſſian Army.* Vide *Tranſactions of the Royal Society of Edinburgh. Vol. I.* 4to, Edinburgh.

DR GRIEVE ſets out with obſerving, that in an age like the preſent, when few ſubjects in nature ſeem to have eluded the reſearches of philoſophy, and when the communications of learning are as well eſtabliſhed as thoſe of commerce, it may appear ſurpriſing, that one of the moſt important productions of milk ſhould ſtill remain in a great meaſure unknown to the moſt enlightened parts of Europe. The production here alluded to, is a vinous liquor, which is procured by fermentation from mares milk.

This

This preparation has not been diſcovered by chemical knowledge, but has been taught to enlightened nations by a horde of Tartars, whoſe rank in ſociety is not above that of Barbarians.

Even in Ruſſia itſelf, it was with difficulty our author could learn the particulars of the preparation; and although it had been uſed for ſome ages by ſeveral tribes of people who belong to that empire, yet when Dr Grieve firſt began to think of employing it in medicine, in the year 1781, it was as little known in what is called Ruſſia Proper, as in Great Britain. This neglect, our author thinks, is perhaps in part to be aſcribed to the obſcure relations of travellers, and in part to the ſyſtem of pride which men of learning are too apt to indulge, in rejecting as incredible whatever does not coincide with their own preconceived opinions.

From the authors who have before mentioned it, Dr Grieve tells us, that but little information is to be derived. They all agree, that a vinous liquor from mares milk is uſed by ſome of the Tartar nations, under the name of Koumiſs; but none of them enters into

into a detail of the proceſs by which it is prepared; much leſs does any of them point out the purpoſes, either in œconomy or in medicine, to which it may be applied.

The following method of making Koumiſs is practiſed by the Baſchkir Tartars, who inhabit that part of the government of Orenbourg, which lies between the rivers Kama and Volga. It was communicated to Dr Grieve by a Ruſſian nobleman who went into the country to drink it; and as he reſided there for a conſiderable time, he could not, our author thinks, be miſtaken with reſpect to the proceſs. This method of preparation Dr Grieve afterwards adopted in his own practice with ſucceſs.

Take, ſays he, of freſh mares milk of one day, any quantity; add to it a ſixth part of water, and pour the mixture into a wooden veſſel. Uſe then, as a ferment, an eighth part of the ſoureſt cows milk that can be got; but, at any future preparation, a ſmall portion of old Koumiſs will anſwer better the purpoſe of ſouring. Cover the veſſel with a thick cloth, and ſet it in a place of moderate warmth; leave it at reſt twenty-four hours, at the end of which time the milk will have become ſour,

and

and a thick ſubſtance will be gathered on the top. Then with a ſtick, made at the lower end in the manner of a churn-ſtaff, beat it till the thick ſubſtance above-mentioned be blended intimately with the ſubjacent fluid. In this ſituation, leave it again at reſt for twenty-four hours more; after which, pour it into a higher and narrower veſſel, reſembling a churn, where the agitation muſt be repeated as before, till the liquor appear to be perfectly homogeneous; and in this ſtate it is called *Koumiſs*. Its taſte is a pleaſant mixture of ſweet and ſour. Agitation muſt be employed every time before it be uſed.

To obtain the milk in ſufficient quantity, the Tartars, he tells us, have a cuſtom of ſeparating the foal from the mare during the day, and allowing it to ſuck during the night. When the milk is to be drawn from the mare, which is generally done about five times a day, they always produce the foal, on the ſuppoſition that the mare yields her milk moſt copiouſly when it is preſent.

To the above account of the method of making Koumiſs, Dr Grieve adds ſome other particulars, of which he was informed by dif-

ferent Tartars themſelves. By one of them he was informed, that to prevent changing the veſſel, the milk may be put at once into a pretty high and narrow veſſel; and that in order to accelerate the fermentation, ſome warm milk may be added to it, and, if neceſſary, more ſouring. From another whom he met at the fair of Macarieff, upon the Volga, and from whom he purchaſed one of the leathern bags which are uſed by the Kalmucks for the preparation and carriage of their Koumiſs, he learned, that the proceſs may be much ſhortened, by heating the milk before the ſouring be added to it; and, as ſoon as the parts begin to ſeparate, and a thick ſubſtance to riſe to the top, by agitating it every hour, or oftener. He learned alſo, that it was common among ſome Tartars to prepare it in one day during Summer, and that with only two or three agitations; but that in Winter, when, from a deficiency of mares milk, they are obliged to add a greater quantity of that of cows, more agitation is neceſſary. Koumiſs is commonly uſed within a few days after its preparation; but when well ſecured in cloſe veſſels, and kept in a cold place, it may be preſerved for three months,

months, or even a longer time, without any injury of its qualities.

From all the accounts Dr Grieve could procure, it appeared to him, that three things are eſſential to the vinous fermentation of milk. Theſe are, heat, ſouring, and agitation. Heat, he obſerves, is neceſſary to every ſpecies of fermentation; and ſouring is perhaps not leſs ſo, though not in every caſe in ſo ſenſible a degree as in the preſent. But the chief art of fermenting milk conſiſts in agitation. In fermenting vegetable juices and infuſions, Dr Grieve obſerves, that nature has no need of the aſſiſtance of art; the inteſtine motion which accompanies the fermentation being ſufficient to produce the degree of agitation which ſeems neceſſary to keep the parts of the fluid in mutual contact, or to fit them for mutual action. But milk is no ſooner foured, than a ſeparation of its parts takes place. The cream riſes to the top, while the cheeſe either falls to the bottom, or is ſuſpended in the whey. When, however, theſe parts are brought into cloſe contact with each other by agitation, and when this is repeated at proper intervals, a vinous liquor is produced.

After this account of the preparation of Koumiſs, Dr Grieve next proceeds to make ſome remarks on its medical properties. As ſoon as he heard of it, he conceived an opinion of its importance in the cure of certain diſeaſes. He imagined, that a preparation of milk which could not be curdled by the fluids of the ſtomach, while at the ſame time it poſſeſſed all its nutritive qualities, with the addition of a fermented ſpirit, might be of eſſential ſervice in all thoſe diſorders where the body is defective either in nouriſhment or ſtrength.

The firſt caſe in which he tried it, was that of the nobleman who communicated to him the proceſs for preparing it. At the age of 26, this patient laboured under a complication of chronic complaints. A confirmed lues venerea, injudiciouſly treated with three ſucceſſive ſalivations by mercury, added to bad management of himſelf under theſe, had given riſe to his diſeaſe. His body was much emaciated; his face of a livid, yellow colour; his eyes were ſunk; and round his eye-lids there was a dark ſhade. He felt a ſevere pain in his breaſt, which was accompanied with conſiderable cough, and mucous expectoration. His appetite and digeſtion

were

were much impaired; he had frequent tremblings and faintings; and he began to feel the ſymptoms of hectic fever. In ſhort, his whole appearance was conſumptive; and he was ſo weak, that he required aſſiſtance to get into a carriage by which he was to be conveyed to Tartary, to drink Koumiſs by Dr Grieve's advice.

After drinking Koumiſs for only ſix weeks, he was perfectly freed from all the above ſymptoms, and was become ſo plump and freſh-coloured, that, at firſt ſight, it was with difficulty his friends could recognize him. He informed Dr Grieve by letter, that the Koumiſs had produced, even during the firſt days, a ſudden and remarkable change; that he ceaſed to be diſturbed in his ſleep; that his nervous and dyſpeptic ſymptoms left him; that he felt as if his veſſels had been diſtended with a freſh cooling liquor; that he became cheerful; that it ſerved him both for food and drink; and that though he uſed it to the quantity of a gallon and a half, and ſometimes even more in twenty-four hours, yet he always drank it with pleaſure, and not without intoxication; that his body, during its uſe,

was regularly open; but that his urine was ſo much increaſed, that he was uſually excited to make water every hour.

The next caſe in which Dr Grieve employed it, although not ſo deſperate as the former, gave, however, ſufficient proofs both of its nutritive and ſtrengthening qualities. A lady who had witneſſed its uncommon efficacy in the caſe mentioned above, was encouraged to try it in her own. It was not convenient for her to go to Tartary; and therefore, ſhe had it ſent to her, well ſecured in caſks, during the Autumn. She had been long ſubject to a train of nervous diſorders, by which ſhe was much extenuated, and reduced to a ſtate of extreme weakneſs and irritability. She uſed the Koumiſs for about a month; at the end of which time, the functions of her nervous ſyſtem were reſtored; and, with health and vigour, ſhe acquired plumpneſs and a freſh complexion.

The year following, Dr Grieve had an opportunity of trying it under his own eye, at Niſchne-Novogorod, in the caſe of a young man who had all the ſymptoms of incipient phthiſis. He was affected with pain of his breaſt,

breaſt, dry cough, occaſional hæmoptyſis, and great emaciation. He was not, however, become hectic. Two elder brothers of his had died of true pulmonary conſumptions. He had taken many medicines in a different part of the country, and had obſerved a ſtrict antiphlogiſtic regimen; but though milk conſtituted the greateſt part of his diet, there were no ſigns of recovery. He drank Koumiſs for about two months only, and that in rather an unfavourable ſeaſon; but the conſequence was, that all the above ſymptoms diſappeared, and his fleſh and ſtrength returned; nor was there any reaſon to apprehend a relapſe, when Dr Grieve left Ruſſia.

Nearly about the ſame time that it was employed in the above caſe, Dr Grieve adviſed its uſe to another young nobleman, who laboured under an abſceſs in the left ſide, about the twelfth rib. As he had reſided in a remote part of the country, no attention had at firſt been paid to it: On the contrary, by improper applications, the ſides of the ulcer were become hard. He had loſt his fleſh and ſtrength; he had occaſional faintings; and

there were all the appearances of incipient hectic. By the uſe of Koumiſs for about ſix weeks, proper chirurgical dreſſings being at the ſame time applied, his health was perfectly re-eſtabliſhed.

Beſides theſe, Dr Grieve directed it alſo in ſome other caſes; but as they were leſs important, he thinks it unneceſſary to detail them. He obſerves in general, that all thoſe who drank it, agreed in ſaying, that, during its uſe, they had little appetite for other food; that they drank it in very large quantities, not only without diſguſt, but with pleaſure; that it rendered their veins turgid, without producing languor; that, on the contrary, they ſoon acquired from it an uncommon degree of ſprightlineſs and vivacity; and that, even in caſes of ſome exceſs, it was not followed by indigeſtion, headach, or any of thoſe ſymptoms which uſually attend the abuſe of other fermented liquors. And he further adds, that the Baſchkir Tartars, who, towards the end of winter, are much emaciated, no ſooner return, in ſummer, to the uſe of the Koumiſs, than they become ſtrong and fat.

From

From all theſe obſervations, Dr Grieve thinks himſelf entitled to infer, that this wine of mares milk may be applied to many uſeful purpoſes in medicine. From the mild acid it contains, it may, he thinks, be conſidered as a cooling antiſeptic; from its vinous ſpirit, it may become an uſeful ſtimulant, cordial, and tonic; and from its oily and mucilaginous parts, it may prove a valuable article of nouriſhment: And, in ſhort, he is of opinion, that a ſubſtance of eaſy digeſtion, which at once ſtrengthens the ſtomach, and nouriſhes the body, may become a powerful remedy in almoſt all chronic caſes; while, in acute diſeaſes, eſpecially thoſe of the febrile kind, attended with ſymptoms of weakneſs and putridity, it may be found, from its antiſeptic and tonic powers, to be an uſeful corrector and reſtorative.

If Koumiſs ſhould be determined, by future experience, to be productive of the effects here ſuggeſted, Dr Grieve obſerves, that the ſcarcity of mares milk in Britain, would greatly circumſcribe its utility. Hence inquiries will naturally be made, whether other ſpecies of milk admit of a ſimilar vinous fermentation;

tion; and what proportion of ſpirit they contain. But as he had never paid particular attention to this ſubject himſelf, he here adds the ſubſtance of what he had been able to learn from others, reſpecting the moſt common milk, that of cows.

Dr Pallas, in a late publication, affirms, that cows milk is alſo ſuſceptible of the vinous fermentation, and that the Tartars prepare a wine from it in Winter, when mares milk fails them: that to the wine prepared from cows milk, they give the name of Airen; but that they always prefer Koumiſs when it can be got, as it is more agreeable, and contains a greater quantity of ſpirit. According to Dr Pallas, Koumiſs yields, on diſtillation, a weak ſpirit to the extent of one third of its whole quantity; while Airen yields it only to the extent of one ninth. To to this ſpirit they give the name of *Arika*.

A diſſertation has lately been pubiſhed on the ardent ſpirit which may be obtained from cows milk, by Dr Oſeretſkowſky who accompanied M. Lepechin and other academicians in their travels through Siberia and Tartary. From his experiments, it appears, that cows

milk

milk may be fermented with, or even without ſouring, provided ſufficient time and agitation be employed; that no ſpirit could be procured from any one of its conſtituent parts taken ſeparately, nor from any two of them, unleſs when mixed with ſome part of the third; that the milk with all its parts in the natural proportion was the moſt productive of it; that the cloſer it was kept, or, which is the ſame thing, the more difficultly the fixed air is allowed to eſcape during the fermentation, care however being taken not to endanger the burſting of the veſſel, the more ardent ſpirit is obtained. He alſo found, that it had a ſourer ſmell before, than after agitation; that the quantity of ſpirit was increaſed by allowing the the fermented liquor to remain at reſt for ſome time before diſtillation; that from ſix pints of milk fermented in a cloſe veſſel, and thus ſet at reſt, three ounces of ardent ſpirit, of which one was conſumed in burning, could be obtained; but from the ſame quantity of the ſame milk, fermented in an open veſſel, he could ſcarcely obtain one ounce of ſpirit.

Theſe

Theſe particulars, it is not improbable, may even throw ſome light on fermentation in general; a ſubject very obſcure, and hitherto but imperfectly underſtood. But Dr Grieve's principal intention was, to point out to phyſicians what appeared to him a powerful means, which may be employed on many occaſions in the cure of diſeaſes. And if the Koumiſs, or any ſubſtitute for it which may be had in Britain, ſhall here be found productive of thoſe good effects which Dr Grieve alleges, its introduction may juſtly be conſidered as an important improvement in the healing art.

X.

X.

Theory of the Earth, or an Inveſtigation of the Laws obſervable in the Compoſition, Diſſolution, and Reſtoration of Land upon the Globe. By James Hutton, *M. D. F. R. S. Ed. and Member of the Royal Academy of Agriculture at Paris. Vide Tranſactions of the Royal Society of Edinburgh. Vol. I.* 4to, Edinburgh.

THE object which the ingenious author has in view, in the diſſertation before us, is to form ſome eſtimate with regard to the length of time for which the globe of this earth has exiſted as a world, maintaining plants and animals. He endeavours to reaſon with regard to the changes which the earth has undergone, and to ſee how far an end or termination of this ſyſtem of things may be perceived, from the conſideration of that which has already come to paſs.

As it is not in human record, but in natural hiſtory, that we are to look for the means of aſcertaining

aſcertaining what has already been, he propoſes to examine the appearances of the earth, in order to be informed of the operations which have been tranſacted in time paſt. It is thus that, from the principles of natural philoſophy, we may arrive at ſome knowledge of order and ſyſtem in the œconomy of this globe, and may form a rational opinion with regard to the courſe of nature, or to events which are in time to happen.

The ſolid parts of the preſent land appear, in general, to have been compoſed of the productions of the ſea, and of other materials ſimilar to thoſe now found upon the ſhores. Hence he thinks we have reaſon to draw the following concluſions: 1*ſt*, That the land on which we reſt, is not ſimple and original, but that it is a compoſition, and had been formed by the operation of ſecond cauſes: 2*dly*, That before the preſent world was made, there had ſubſiſted a world compoſed of ſea and land, in which there were tides and currents, with ſuch operations at the bottom of the ſea as now take place: and, *laſtly*, That while the preſent land was forming at the bottom of the ocean, the former land maintained plants and animals; at leaſt,

leaſt, the ſea was then inhabited by animals, in a ſimilar manner to what it is at preſent.

Hence we are led to conclude, that the greater part of our land, if not the whole, had been produced by operations natural to this globe; but that, in order to make this land a permanent body, reſiſting the operations of the water, two things had been required: 1*ſt*, The conſolidation of maſſes formed by collections of looſe or incoherent materials; and, 2*dly*, The elevation of thoſe conſolidated maſſes from the bottom of the ſea, the place where they were collected, to the ſtations in which they now remain, above the level of the ocean.

Here are two different changes, which ſerve mutually to throw ſome light upon each other; for as the ſame ſubject has been made to undergo both theſe changes, and as it is from the examination of this ſubject that we are to learn the nature of theſe events, the knowledge of the one may lead us to ſome underſtanding of the other.

Thus the ſubject is conſidered as naturally divided into two branches, to be ſeparately examined: 1*ſt*, By what natural operations ſtrata of looſe materials had been formed into ſolid maſſes;

maſſes; and, *2dly*, By what power of nature the conſolidated ſtrata at the bottom of the ſea had been transformed into land.

With regard to the *firſt* of theſe, the conſolidation of ſtrata, there are two ways, Dr Hutton thinks, in which this operation may be conceived to have been performed; *firſt*, By means of the ſolution of bodies in water, and the after concretion of theſe diſſolved ſubſtances, when ſeparated from their ſolvent; or, *ſecondly*, from the fuſion of bodies by means of heat, and the ſubſequent congellation of theſe conſolidating ſubſtances.

With regard to the operation of water, it is *firſt* conſidered, how far the power of this ſolvent, acting in the natural ſituation of theſe ſtrata, might be ſufficient to produce the effect: and here it is found, that water alone, without ſome other agent, cannot be ſuppoſed capable of inducing ſolidity among the materials of ſtrata in that ſituation. It is, in the *ſecond* place, conſidered how far, ſuppoſing water capable of conſolidating the ſtrata in that ſituation, it might be concluded, from examining natural appearances, that this had actually been the caſe. Here, again, having proceeded upon

on this principle, that water could only conſolidate ſtrata with ſuch ſubſtances as it has the power of diſſolving, and having found ſtrata conſolidated with every ſpecies of ſubſtance, it is concluded, that ſtrata in general have not been conſolidated by means of aqueous ſolution.

With regard to the other probable means, heat and fuſion, theſe he finds to be perfectly competent for producing the end in view; as every kind of ſubſtance may, by heat, be rendered ſoft, or brought into fuſion, and as ſtrata are actually found conſolidated with every different ſpecies of ſubſtance.

Dr Hutton then enters into a more particular diſcuſſion. He conſiders conſolidating ſubſtances as being claſſed under two different heads, viz. ſiliceous and ſulphureous bodies, with a view to prove that it could not be by means of aqueous ſolution, that ſtrata had been conſolidated with theſe particular ſubſtances, but that their conſolidation had been accompliſhed by means of heat and fuſion.

He next conſiders Sal Gem as being a ſubſtance ſoluble in water, in order to ſhow that this body had been laſt in a melted ſtate. And

this example is confirmed by one of foſſile alkali. The caſe of particular ſeptaria of ironſtone, as well as certain cryſtallized cavities in mineral bodies, are then given as examples of a ſimilar fact, and as containing, of themſelves, a demonſtration, that all the various mineral ſubſtances had been concreted and cryſtallized immediately from a ſtate of fuſion.

Having thus proved the actual fuſion of the ſubſtances with which ſtrata had been conſolidated, in having ſuch fluid bodies introduced among their interſtices, he next conſiders the caſe of ſtrata, conſolidated by means of the ſimple fuſion of their proper materials; and examples are taken from the moſt general ſtrata of the globe, viz. ſiliceous and calcareous. Here alſo demonſtration is given, that this conſolidating operation had been performed by means of fuſion.

Having come to this general concluſion, that heat and fuſion, not aqueous ſolution, had preceded the conſolidation of the looſe materials collected at the bottom of the ſea, he next examines theſe conſolidated ſtrata in general, in order to diſcover other appearances, by which the doctrine may be either confirmed

ed or refuted. Here the changes of ſtrata from their natural ſtates of continuity by veins and fiſſures are conſidered; and the cleareſt evidence is hence deduced, that the ſtrata have been conſolidated by means of fuſion, and not by aqueous ſolution; for, not only the ſtrata are in general found interſected with veins and cutters, an appearance inconſiſtent with their having been conſolidated ſimply by previous ſolution, but in proportion as ſtrata are more or leſs conſolidated, they are found with the proper correſponding appearances of veins and fiſſures.

With regard to the *ſecond* branch, in conſidering by what power the conſolidated ſtrata had been transformed into land, or raiſed above the level of the ſea, Dr Hutton ſuppoſes, that the ſame power of extreme heat, by which every different mineral ſubſtance had been brought into a melted ſtate, might be capable of producing an expanſive force ſufficient for elevating the land from the bottom of the ocean to the place it now occupies, above the ſurface of the ſea. Here we are again referred to nature, in examining how far the ſtrata formed by ſucceſſive ſediments, or accumula-

tions depoſited at the bottom of the ſea, are to be found in that regular ſtate which would neceſſarily take place in their original production; or whether, on the other hand, they are actually changed in their natural ſituation, broken, twiſted and confounded, as might be expected from the operation of ſubterranean heat, and violent expanſion. But as ſtrata are actually found in every degree of fracture, flexure, and contortion, conſiſtent with this laſt ſuppoſition, and with no other, we are led to conclude, that our land had been raiſed above the ſurface of the ſea in order to become a habitable world, as well as that it had been conſolidated by means of the ſame power of ſubterranean heat, in order to remain above the level of the ſea, and to reſiſt the violent efforts of the ocean.

This theory is next confirmed by the examination of mineral veins, thoſe great fiſſures of the earth which contain matter perfectly foreign to the ſtrata they traverſe, matter evidently derived from the mineral region; that is, from the place where the active power of fire, and the expanſive force of heat reſide.

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Such being conſidered as the operations of the mineral region, we are hence directed to look for the manifeſtation of this power and force in the appearances of nature. It is here we find eruptions of ignited matter from the ſcattered volcanoes of the globe; and theſe we conclude to be the effects of ſuch a power preciſely as that now enquired after. Volcanoes are thus conſidered as the proper diſcharges of a ſuperfluous or redundant power; not as things accidental in the courſe of nature, but as uſeful for the ſafety of mankind, and as forming a natural ingredient in the conſtitution of the globe.

The doctrine is then confirmed, by examining this earth, and by finding, every where, excluſive of the many marks of ancient volcanoes, abundance of ſubterraneous or unerupted lava, in the baſaltic rocks, the Swediſh trap, the toad-ſtone, rag-ſtone and whin-ſtone of Great Britain and Ireland, of which particular examples are cited, and a deſcription given of the three different ſhapes in which that unerupted lava is found. The peculiar nature of this ſubterraneous lava is then examined, and a clear diſtinction is formed between

this baſaltic rock and the common volcanic lavas.

Laſtly, The extenſion of this theory, reſpecting mineral ſtrata, to all parts of the globe, is made by finding a perfect ſimilarity in the ſolid land through all the earth; although, in particular places, it be attended with peculiar productions, with which the preſent inquiry is not concerned.

A theory is thus formed with regard to the mineral ſyſtem. According to this ſyſtem, hard and ſolid bodies are to be formed from ſoft bodies, from looſe and incoherent materials collected together at the bottom of the ſea; and the bottom of the ocean is to be made to change its place with relation to the centre of the earth, to be formed into land above the level of the ſea, and to become a country fertile and inhabited.

That there is nothing viſionary in this theory, appears from its having been rationally deduced from natural events; from things which have already happened; things which have left, in the particular conſtitutions of bodies, proper traces of the manner of their production; and things which may be examined with

with all the accurracy, or reaſoned upon with all the light, which ſcience can afford. As it is only by employing ſcience in this manner, that philoſophy enlightens man with the knowledge of that wiſdom or deſign which is to be found in nature, this ſyſtem now propoſed, from unqueſtionable principles, will claim the attention of ſcientific men, and may be admitted in our ſpeculations with regard to the works of nature, even although many ſteps in the progreſs may remain unknown.

By thus proceeding upon inveſtigated principles we are led to conclude, that if this part of the earth which we now inhabit had been produced, in the courſe of time, from the materials of a former earth, we ſhould, in the examination of our land, find data from which to reaſon with regard to the nature of that world which had exiſted during the period of time in which the preſent earth was forming; and thus we might be brought to underſtand the nature of that earth which had preceded this, and how far it had been ſimilar to the preſent, in producing plants and nouriſhing animals. But this intereſting point is perfectly aſcertained, by finding abundance of every

manner of vegetable production, as well as of the ſeveral ſpecies of marine bodies, in the ſtrata of our earth.

Having thus aſcertained a regular ſyſtem, in which the preſent land of the globe had been firſt formed at the bottom of the ocean, and then raiſed above the ſurface of the ſea, a queſtion naturally occurs with regard to the ſpace of time neceſſary for accompliſhing this great work.

In order to form a judgment concerning this matter, our attention is directed to another progreſs in the ſyſtem of the globe; that is, the deſtruction of the land which had preceded that on which we now dwell. Now, for this purpoſe, we have the actual decay of the preſent land, a thing conſtantly tranſacting in our view, by which we may form an eſtimate. This decay is the gradual ablution of our ſoil by the floods of rain, and the attrition of the ſhores by the agitation of the waves. If we could meaſure the progreſs of the preſent land towards its diſſolution by attrition, and its ſubmerſion in the ocean, we might diſcover the actual duration of a former earth; an earth which had ſupported plants

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and animals, and had ſupplied the ocean with thoſe materials which the conſtruction of the preſent earth required; conſequently, we ſhould have the meaſure of a correſponding ſpace of time, that, viz. which had been required in the production of the preſent land. If, on the contrary, no period can be fixed for the duration or deſtruction of the preſent earth, from our obſervations of thoſe natural operations, which, though unmeaſurable, admit of no doubt, we ſhall be warranted in drawing the following concluſions: *Firſt*, That it had required an indefinite ſpace of time to have produced the land which now appears; *ſecondly*, That an equal ſpace had been employed upon the conſtruction of that former land, from whence the materials of the preſent came; and, *laſtly*, That there is at preſent lying at the bottom of the ocean the foundation of future land, which is to appear after an indefinite ſpace of time.

But as there is not in human obſervation proper means for meaſuring the waſte of land upon the globe, it is hence inferred, that we cannot eſtimate the duration of what we ſee at preſent, nor calculate the period at which

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it had begun; ſo that, with reſpect to human obſervation, this world has neither a beginning nor an end, aſcertained upon any probable ground.

In the concluſion of this eſſay, Dr Hutton endeavours to ſupport his theory by an argument of a moral nature, drawn from the conſideration of a final cauſe. Here a compariſon is formed between the preſent theory, and thoſe by which there is neceſſarily implied either evil or diſcord in the nature of things; and an argument is formed upon the wiſdom of Nature, for the juſtneſs of a theory in which perfect order is to be perceived.

For, according to the theory which has now been propoſed, a ſoil adapted to the growth of plants is neceſſarily prepared, and carefully preſerved; and in the neceſſary waſte of land which is inhabited, the foundation is laid for future continents, in order to ſupport the ſyſtem of this living world.

Thus, in ſuppoſing Nature to be wiſe and good, an argument is afforded in confirmation of the theory; and from ſuppoſing the theory to be juſt, an argument may be drawn in proof of the wiſdom and benevolence which are to

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be perceived in Nature. In this manner there is opened to our view a ſubject intereſting to every man who thinks; a ſubject on which we may reaſon with relation to the ſyſtem of nature; and one which may afford to the human mind both information and entertainment.

IX.

XI.

Jo. Fred. Blumenbachii *Specimen Phyſiologiæ comparatæ inter Animantia calidi Sanguinis Vivipara et Ovipara.* Vide *Commentationes Societatis Regiæ Scientiarum Gottingenſis, ad Annos* 1787 *et* 1788. *Vol. IX.* 4to, Gottingæ.

SOME years ago, the ingenious author of the diſſertation now before us, publiſhed, in a former volume of the Gottingen Tranſactions, ſome obſervations on the comparative phyſiology of what are called animals of cold and of hot blood, when put in contradiſtinction to each other. And in the proſecution of the ſame ſubject, he here inſtitutes a compariſon between thoſe belonging to the latter tribe, which are of the viviparous, and thoſe which are of the oviparous kind.

This inquiry, he thinks, may particularly ſerve to illuſtrate the natural hiſtory of birds, which

which in their phyſiology differ in many important particulars from other animals. For while they differ from almoſt all other animals of red blood, in being covered with a plumage, ſo alſo in the internal ſtructure of the parts; and in the functions of theſe they exhibit ſo remarkable a diſcrepancy, as to conſtitute what may almoſt be conſidered as an anomalous claſs of the organic world.

In the proſecution of this ſubject, he firſt offers ſome obſervations on the genital functions of animals of warm blood; next, on the vital; then, on the natural; and, laſtly, on the animal functions.

On the firſt of theſe ſubjects he obſerves, it is well known, that after fruitful coition in women, and other females of the tribe of mammalia, a bloody fiſſure is to be found in one of the ovaria, from a rupture during the venereal orgaſm, of one of thoſe veſicles which De Graaf conſidered as real ova; and that this ſlight wound, in progreſs of time, aſſumed the form of an elegant vaſcular cicatrix, which, ſince the days of Malpighi, has had the name of *corpus luteum*.

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It has been a matter of keen diſpute among modern phyſiologiſts, whether corpora lutea are ever to be met with unleſs after coition or not? Dr Haller is a ſtrenuous advocate for the latter of theſe opinions, Buffon for the former; and while Haller affirms, that, in all his diſſections of females of the tribe of mammalia, he never could diſcover them unleſs in thoſe who had been pregnant, the opinion of Buffon is ſupported by the diſſections of Valliſneri, Santorini, and Bertrandi, three Italian profeſſors, who contend, that they have diſcovered them on the diſſection of females of the human ſpecies, who, there was the ſtrongeſt reaſon for believing, had never had any connection with a male.

This queſtion, our author thinks, may in ſome degree be ſolved, by attending to the phyſiology of fowls. The ovaria and tube of birds, excepting in the ſingle circumſtance, that they are ſimple only, not divided, as in other animals, one on the right, another on the left, agree in every other particular with thoſe of the mammalia, and admit of an eaſy compariſon. The yolk of the egg, as long as it remains in the ovarium, is contained within

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its membranous calyx, in the ſame manner as the ova of De Graaf are ſurrounded by the common teguments of the ovaria. But when the yolk has made a certain progreſs, it burſts from its calyx, is received by the infundibulum, and enters the oviduct, in the ſame manner as it is probable that the gelatinous fluid of the ovarium is received by the fringed extremity of the tube, and propelled through it. The flaccid calyx in fowls, when deprived of its yolk, may juſtly be compared to the corpus luteum in the mammalia.

It is however on all hands allowed, that all the changes mentioned, happen to females of the fowl tribe, although they have never had any connection with a male, and that they lay addle eggs, as they have been called, in every reſpect ſimilar to real ones, excepting that they are barren, and altogether unfit for incubation. It is no leſs true, Mr Blumenbach obſerves, that fowls may conceive theſe addle eggs without the male, by mere titillation of the genitals. This, as well as their libidinous diſpoſition, was particularly obſerved both by Ariſtotle and by Harvey; the latter of whom found their venereal appetite to be ſo ſtrong, that

that upon gently ſtroaking their backs, they immediately threw themſelves into a procumbent poſture, with the uterine orifice bare and erected; and, on the ſlighteſt titillation with the finger, by a murmuring noiſe, and motion of the wings, they gave evidence that they enjoyed all the pleaſures of venery.

Mr Blumenbach implores the forgiveneſs of the manes of thoſe virgins, whoſe diſſections are referred to by Valliſneri and others, for ſuppoſing that in them corpora lutea had been formed in the ovaria by a ſimilar proceſs. This he thinks might, in the ovaria of young girls, not leſs than in that of fowls, be effected by laſcivious artifice, as well as by the aid of a male; and this ſuſpicion is, he thinks confirmed, by the appearance of corpora lutea being only obſerved in virgins ſomewhat advanced; as in thoſe about their fourteenth year, in thoſe who were hyſteric, and the like.

From this conjecture, he obſerves, the reaſon is evident, why theſe corpora lutea, or calyces, are diſcovered only in females of the human ſpecies, and in birds, who have had no connection with a male. They have never been obſerved in quadrupeds unconnected with a male;

a male; which our author aſcribes to there being, in the caſes of theſe animals, no other ſtimulus, excepting real coition, which can have the effect here mentioned. Hence the reaſoning of the illuſtrious Haller and his followers, who held that theſe bodies never appeared unleſs from conception, is, our author thinks, at leaſt highly excuſeable.

After theſe obſervations, he proceeds to make ſome remarks on the hatching of eggs, which, after they are laid by the mother, is effected either by incubation, or by any ſimilar heat, in a manner analogous to the progreſs of the fœtus in the uterus of the mammalia. But this proceſs in incubation, differs remarkably, in many particulars, from what is obſerved in the caſe of the viviparous embryo.

The firſt appearance of the tender chick, differs exceedingly from what is afterwards viſible in the progreſs of incubation. On the contrary, the tender embryo of the mammalia, though exiſting only under the form of a tremulous jelly, or having the appearance of a maggot, does not undergo the ſame metamorphoſis of form, either in the general habit of its body, or in the formation of its viſcera.

As an example, he compares the punctum ſaliens of the incubated chick with the tender rudiments of the heart in the mammalia; and, to the remarkable changes which the former undergoes, he aſcribes the monſtrous conformation ſo frequently obſerved in the hearts of birds.

Beſides this, the complete formation of the parts in the fœtus of the mammalia, makes a much quicker progreſs, and ſooner arrives at perfection, than in the incubated chick. As an example of this, he mentions the formation of the ribs. No traces of theſe have been diſcovered in the chick before the end of the eighth day. But this term correſponds, in the human ſpecies, with the beginning of the ſixteenth week of pregnancy. Mr Blumenbach, however, in his anatomical collection, has preparations of human fœtuſes hardly larger than an ant, and whoſe age, for certain, did not exceed the fifth week after conception, in which the cartilaginous rudiments of the ribs diſtinctly appear.

Of the analogy which ſubſiſts between the nutrition of the chick in ovo, and of the human fœtus, at leaſt in its earlieſt ſtages, he obſerves,

ſerves, that the umbilical veſicula of the mammalia agrees in many particulars with the vitellary ſac in fowls; and he thinks it probable, that this veſicle contributes to the firſt nutrition of the gelatinous embryo, before it be ſo far advanced as to be nouriſhed by the maternal blood.

The time for which the chick remains in ovo, ſeems to be much more variable than that of geſtation in the gravid mammalia, and is much leſs circumſcribed within a ſtated period. Thus, in hens eggs particularly, if artificial heat be employed, the hatching varies from eighteen to twenty-four days, particularly as the heat has been more or leſs intenſe.

The laſt remarkable difference which is pointed out between the chick and the fœtus of the mammalia when arrived at maturity, is the power which the former poſſeſſes. It is of itſelf able to break the ſhell in which it has hitherto been incloſed, and to make way for its exit. But the human fœtus, on the contrary, when arrived at maturity, cannot, in the ſmalleſt degree, contribute to its own liberation.

After theſe remarks on the generative, the author next proceeds to make ſome obſervations on the vital functions. A remarkable difference, he obſerves, takes place between the circulation through the lungs in the birds and mammalia. While the lungs of fowls are proportionably ſmall, and are attached to the vertebræ of the thorax, to the ribs, and to the intercoſtal muſcles, they are at the ſame time perforated with remarkable openings into various receptacles of air, and therefore are not ſo conſiderably inflated by inſpiration as the lungs of the mammalia. By this means it might be imagined, that the paſſage of blood coming from the right ventricle of the heart would be obſtructed. But Mr Blumenbach is of opinion, that a peculiar mechaniſm in the fabric of the right ventricle, in which all the tribe of birds differ from the mammalia, is the contrivance by which this want of inflation of the lungs is ſupplied. His deſcription of this mechaniſm, which conſiſts of a fleſhy valve of conſiderable ſize and ſtrength, is illuſtrated by an engraving, without which the deſcription itſelf would be unintelligible, and which, therefore,

therefore, cannot with propriety be introduced into our work.

The numerous adheſions of the lungs in fowls, and the ſmall dilatation which takes place in inſpiration, is, Mr Blumenbach thinks, the reaſon why the brain is not, in them, ſubjected to an alternate riſing and falling, on inſpiration and expiration, as in the mammalia.

With regard to the receptacles of air in birds, on account of which, as has already been ſaid, Nature has provided a peculiar ſtructure of the heart, the abdominal bladders ſeem chiefly to claim attention; becauſe, beſides their uſe in common with the other receptacles, they ſupply, as it were, the want of an abdominal preſſure in birds, for the excretion of fæces, and the laying of eggs.

In ſinging birds, in particular, it may often be obſerved, that when they diſcharge fæces, the abdomen is rather ſwelled than drawn inwards; a proof that the abdominal bladders are then inflated by air inſpired, and that thus, from a preſſure of the inteſtines, the rectum is emulged.

As in the organs of reſpiration, ſo likewiſe in thoſe of voice, the warm oviparous animals

differ very conſiderably from the viviparous, which particularly appears in the ſtructure of the larynx. Beſides, it deſerves to be mentioned, that, in the bird tribe, the organs of voice of many of the males differ eſſentially from thoſe of females of the ſame ſpecies. Some difference, indeed, in this reſpect, is obſervable even in the mammalia; but there, the difference is only in the proportion of parts; whereas, in birds, a difference in ſtructure often occurs; and in ſome, even the courſe of the aſpera arteria in the males is different from what it is in the females.

A few obſervations are next offered on the natural functions. In the organs employed in the digeſtion of food, the firſt ſtriking difference is, that the whole claſs of birds are deprived of teeth. But, on the other hand, birds enjoy a prerogative not granted to any of the mammalia, a motion, to a greater or leſs degree, of the upper jaw. Granivorous fowls have a triple ſtomach, which is compared with the quadruple ſtomach of ſome of the ruminant animals. Notice is next taken of the ſtones which birds ſwallow, to facilitate the action of the ſtomach; and our author holds in deſerved contempt

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the opinion of thoſe who contend, that it is done from mere ſtupidity. He obſerves, that among the carnivorous birds, ſome have a ſingularity which takes place in none of the mammalia, the faculty, viz. of diſcharging by natural vomiting what they cannot digeſt; as the feathers, integuments, and, in ſome caſes, the bones of animals.

To conclude this eſſay, Mr Blumenbach offers ſome remarks on certain animal functions, in which birds differ from the mammalia. The fountain or ſource of theſe, the brain itſelf, is well known to have in birds a very different ſtructure from that of the mammalia, eſpecially with reſpect to its particular parts. But as we have not hitherto been able to diſcover with certainty the uſe of any one particular part of the brain, he thinks it unneceſſary to ſay any thing with reſpect to theſe; and proceeds to treat of the different ſenſes.

The ſenſe of touch, in the ſtrict acceptation of the term, is, he obſerves, confined to but few animals, and particularly is to be met with in but few of the mammalia. In a ſimilar manner, there are but very few of the tribe of birds who can be

ſaid to poſſeſs the genuine ſenſe of touch. In the gooſe tribe, however, this ſenſe, in the opinion of Mr Blumenbach, exiſts in a very conſiderable degree. But the organ of touch, in them, is not in the feet: It is, according to our author, in the ſkinny integument of the bill. By diſſection, he has traced three large branches of the fifth pair of nerves diſtributed on this ſkin; and of theſe he has given a plate, with the view of more diſtinctly pointing out their courſe. But he has inferred the ſenſe of touch in this organ, not ſo much from diſſection as from obſervation. He has often remarked, in the living animal, the great ſenſibility of this integument, ſo copiouſly ſupplied with nerves; and he has often obſerved, that, in ſwimming in dirty pools in queſt of food, they uſe their bill for the examination of matters preſented to them, in the ſame manner as the human ſpecies do their fingers.

In the organs of taſte, a much greater variety exiſts among the tribe of birds, than among the mammalia; for, among the latter, there is no ſpecies which is not furniſhed with a fleſhy, and, in a greater or leſs degree, a ſoft tongue,

tongue. All of them, therefore, may be inferred to poſſeſs the genuine ſenſe of taſte. But, on the other hand, the diverſity which takes place in the tongues of birds, is aſtoniſhing. Many of theſe are of ſuch a rigid and horny conſiſtence, that it is highly improbable the ſtimulus of taſte can there be excited. To compenſate this, however, in birds having ſuch tongues, the palate ſeems to be endowed with peculiar ſenſibility, and is furniſhed with a large proportion of nerves, particularly from the firſt branch of the fifth pair.

Among birds, in no leſs degree than among the mammalia, the ſtructure of the organs of ſmell differs very conſiderably; and in an equal degree is there a variety in the acuteneſs of ſmell in both claſſes.

It is wonderful, Mr Blumenbach obſerves, how much the ears of birds differ from thoſe of the mammalia. In the firſt place, without exception they are deprived of the external cartilaginous part of the ear, ſo univerſal among the mammalia. But, beſides this, there are alſo many peculiarities in the ſtructure of the internal ear, ſuch as the membrane of the tympanum being convex outwards; and many varieties with reſpect to the bones of the ear.

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To compenſate, however, the want of an external ear in birds, they are very generally furniſhed with a moſt elegant diſpoſition of feathers, ſurrounding the meatus auditorius. Theſe, placed like diverging radii, ſeem to be peculiarly calculated for the reception of ſound.

Finally, with reſpect to the eyes of birds, theſe, Mr Blumenbach obſerves, univerſally poſſeſs different parts, which the organs of viſion in the mammalia totally want. As examples, he mentions the bony ring of the ſclerotic membrane, the folded comblike appearance of the vitreous humour, and the like. But, while they thus poſſeſs many peculiarities; ſo, in the ſtructure of other parts in common to both, many ſtriking ſingularities occur; and theſe, the author thinks, tend to throw no inconſiderable light upon many controverſies which have hitherto ſubſiſted with reſpect to viſion in the mammalia, where the ſtructure left phyſiologiſts in a ſtate of obſcurity. As an example, he mentions, that, in ſome birds, the iris appears beyond all diſpute to be a membrane totally diſtinct from the choroid coat.

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Upon the whole, it appears, that, from the compariſon before us, the animal œconomy is, in many different particulars, illuſtrated and explained; and there can be no doubt, that, by the preſent, as well as former eſſays, the ingenious author has increaſed our knowledge of the philoſophy of the human body.

XII.

XII.

Henr. Aug. Wriſbergii *Obſervationes Anatomico-medicæ de Syſtemate Vaſorum abſorbente, morbos viciſſim excitante et ſanante.* Vide *Commentationes Societatis Regiæ Gottingenſis, ad Annos* 1787 *et* 1788. 4to, Gottingæ.

AFTER ſome preliminary obſervations on the advantages which medicine derives from anatomy and pathology, the ingenious author gives it as his opinion, that, both with reſpect to pathology and practice, one fourth of the diſeaſes to which the human body is ſubjected, depend, either in a direct or indirect manner, on the ſyſtem of abſorbent veſſels. The obſervations which he offers upon this ſubject, are referred to four heads: *1ſt*, What are the diſeaſes ariſing from affections of the lymphatic ſyſtem: *2dly*, What are the affections and injuries to which the lymphatic ſyſtem is ſubjected: *3dly*, What are the diſeaſes, which,

which, by the aid of the lymphatics, may be either alleviated or cured: *4thly*, What are the moſt efficacious remedies for correcting morbid affections of the lymphatic ſyſtem.

There are, Dr Wriſberg obſerves, three kinds of affections, which chiefly ariſe from the want of a due operation of the lymphatics: *1ſt*, Thoſe depending on obſtruction to the courſe of abſorbed fluids; *2dly*, Thoſe depending on too great a ſecretion of the finer fluids from the common maſs; and, *3dly*, Thoſe depending on the function of abſorption being either ſtopped or diminiſhed.

Obſtruction to the courſe of abſorbed fluids, may ariſe from external compreſſion on the lymphatics, from internal compreſſion, or from a ſpaſmodic ſtricture of the trunks of the larger lymphatics. Each of theſe the author illuſtrates, by many examples and obſervations, drawn particularly from affections of the dropſical kind.

A ſuperabundant ſecretion of lymph or ſerum from the blood, has, our author obſerves, been long eſtabliſhed by unqueſtionable obſervations; but the cauſes from which it ariſes,

are

are not, he obſerves, by any means properly aſcertained; and hence the difficulty of adapting to theſe, proper remedies. An effuſion of ſuch fluids not unfrequently takes place in thoſe paſſages and cavities in the lungs fitted for the reception of air. Different acrid matters floating in the atmoſphere, ſtimulate the whole ſurface of this ſenſible canal, from the noſe and fauces, even to the moſt remote pulmonary veſicles; and thus an obſtinate catarrhal defluxion takes place. As a remarkable example of this, Dr Wriſberg mentions the catarrh not long ſince originating in Ruſſia, which raged over all Europe, and was known by the name of *Influenza*. In this caſe, the diſcharge, he thinks, conſiſted principally of pure lymph, with but a ſlight mixture of mucus; although he allows, that, towards the end of the diſeaſe, it ſometimes aſſumed even a purulent nature. This affection, which had formerly been aſcribed to ſuppreſſed perſpiration, or ſimilar cauſes, he is inclined to attribute to a peculiar ſaline matter, furniſhed from the earth of the northern regions, and acting upon the trachea, and other ſenſible parts, to which it may be carried by inſpiration. This opinion,

opinion, however, is, we think, equally liable to inſurmountable objections with thoſe formerly entertained; and, from many phænomena attending the diſeaſe, we are inclined to conclude, that in every inſtance it depends upon a contagion communicated from one body to another, whatever the nature or mode of operation of that contagion may be.

A great variety of irritations applied to the alimentary canal, produce there an uncommon ſeparation of watery fluid; and in conſequence of the too great expence of this uſeful fluid, the human frame is ſhaken in its very foundations. Among other cauſes producing ſuch a ſeparation, Dr Wriſberg mentions the frequent uſe of neutral ſalts, the abuſe of aromatics, the irritation ariſing from worms, from bile, and other ſimilar matters.

Irritations ſimilar to thoſe acting upon the lungs and alimentary canal, may likewiſe act upon the urinary organs; and thus a diſcharge may take place of the lymphatic part of the blood. As examples of theſe, he mentions caſes of diabetes and of gonorrhœa. It is alſo, he obſerves, well known, that into all the large cavities, a ſubtle fluid, chiefly of a lymphatic

phatic nature, is ſeparated; and unleſs it be poured out either in too great quantity, or not duly abſorbed, it cannot paſs into a morbid collection; but, from either of theſe circumſtances, dropſy may ariſe. Thus, ſuch an affection is ſometimes, he obſerves, induced from the ſuppreſſion of inſenſible perſpiration, or of urine; and, in that caſe, the fluid collected is of a watery nature. In other caſes, it may ariſe from too copious a ſecretion of lymph into the cavities, when again it is more of a coagulable nature.

It has with ſome been a matter of doubt, whether ſuch an augmented ſecretion of lymph can take place from the ſurface of the body; but Dr Wriſberg is decidedly of opinion, that, in many, while there takes place a diſcharge by the ſurface, of a viſcid glutinous fluid, either extended over the whole body, or confined to particular parts, as for example the feet, this can neither be conſidered as depending on the matter of perſpiration, nor on the fluid furniſhed by the ſebaceous follicles, but is to be held as being a real lymphatic ſweat, as it is ſtyled by our author. The irritation which by its ſtimulus produces this ſecretion,

is not, he obſerves, always very manifeſt. But he thinks it not improbable, that, in moſt inſtances, it is the effect of the ſaline particles of the ſweat.

The evils reſulting from diminiſhed or obſtructed abſorption are, our author obſerves, the moſt obvious and moſt remarkable ariſing from the lymphatic ſyſtem. Here, without pretending to enumerate all the modifications or cauſes of diminiſhed abſorption, he mentions as among the moſt ſtriking, diminiſhed abſorption in the alimentary canal from conſtriction of the lacteals. This, he tells us, is often induced by the abuſe of wine, or other ſpiritous liquors; by the too long continued employment of corroborant medicines; and by viſcid or glutinous aliment. Diminiſhed abſorption alſo, he obſerves, frequently takes place at the lungs, and indeed at all the cavities of the body both large and ſmall, being the moſt common cauſe of dropſical accumulations.

Dr Wriſberg next treats of the morbid affections and injuries to which the ſyſtem of abſorbent veſſels is moſt frequently ſubjected. Theſe, he thinks, may all be referred to three

heads; what, viz. depend on the condition of the fluids to be abſorbed; on the fabric and conformation of the abſorbent veſſels; and on the muſcular power concerned in propelling the fluids through them.

In treating of the diſeaſes which may be chiefly alleviated or removed by the aid of the abſorbent veſſels, he thinks that theſe, although the field be very extenſive, may be chiefly referred to ſeven claſſes: 1. Dropſies, whether general or partial. 2. Affections of the mamma in females. 3. Obſtructed excretions. 4. Swellings from the puncture of venomous animals. 5. Affections of the external ſenſes, particularly of viſion and hearing. 6. Affections of the ſolids, under the form of excoriation, eroſion, and the like. 7. Diſeaſes which, like ſmall-pox, may be mitigated by inoculation.

This eſſay is concluded by ſome obſervations on the moſt efficacious remedies for the removal of morbid affections of the lymphatic ſyſtem. Theſe, he thinks, may be referred to five claſſes. Under the *firſt*, he comprehends thoſe articles by which impediments are removed adverſe to the office of abſorption; as,

veneſection

veneſection and ſcarification, laxatives, emetics, and diaphoretics. Under the *ſecond*, are comprehended all thoſe which forward the progreſſive motion of the abſorbed fluid; which, in general, is effected by muſcular motion; as, riding, leaping, friction, and the like. His *third* claſs comprehends thoſe remedies by which ſpaſmodic ſtrictures of the veſſels are relaxed. To the *fourth*, he refers a variety of articles of the irritant and ſtimulant kind; and, under a *fifth*, he includes all the remedies not properly referable to any of the former, as the proper regulation of the temperature, of food, and of drink. And here he obſerves, that both heat and cold have great influence. Heat, he thinks there can be no doubt, increaſes very much even the firſt action of abſorption; while cold, although not favourable to abſorption itſelf, has yet, he thinks, very great influence in promoting the motion of fluids in the lymphatics, after they have once been taken up.

XIII.

Jo. Andreæ Murray *Commentatio de Arboribus Gummi-Guttæ fundantibus, nominatim ea quæ verum erogat; ſubjunctis aliquot aliis Obſervationibus Botanicis.* Vide *Commentationes Societatis Regiæ Scientiarum Gottingenſis. Vol. IX.* 4to, Gottingæ.

THE learned author of the diſſertation now before us, ſets out with obſerving, that by the ſucceſsful enquiries of the moderns, the number of articles uſed in medicine, with the origin of which we are unacquainted, is daily reduced; and in proof of this, he mentions the accurate deſcriptions with which we have been lately furniſhed, of the vegetables producing the Cortex Winteranus, Salep, Catechu, Benzoe, and ſeveral others. But he remarks, that doubts have hitherto ſubſiſted among botaniſts, from what vegetable that genuine gummi-reſinous juice, known in the ſhops

ſhops of the apothecaries by the names of *Gummi-guttæ*, *Gambogia*, *and Gutta-gambæ*, is obtained. Different trees are deſcribed as yielding it, by Bontius, Rumphius, Schreber, and others. But there are three, in particular, which Dr Murray thinks deſerve to be mentioned, on account of the yellow juice which they yield when wounded; and which, though differing in their origin, after being dried, are ſo far ſimilar, that all of them may, from miſtake, be conſidered as the ſame. Theſe are, the Guttæfera vera of Koning, which Dr Murray ſtyles the Stalagmitis Cambogioides; the Cambogia Gutta of Linnæus, and the Hypericum bacciferum of Linnæus.

Dr Murray conſiders it as a matter of greater importance to determine from which of theſe trees the genuine Gummi-Gutta is obtained; as of late this article, formerly uſed almoſt only by painters, has been introduced into the practice of phyſic, in different affections, with great ſucceſs. It was the prevailing opinion among botaniſts, that the Gum-Gutta was the product of the Cambogia-Gutta; and accordingly, this opinion is adopted by the Edinburgh College, as well indeed as by ſeveral

other Colleges, even in the lateſt editions of their pharmacopœias. But this opinion has of late been overthrown by Dr Koning, who practiſed for many years as a phyſician at Tranquebar. This able naturaliſt, with indefatigable induſtry, made ſeveral journeys into Ceylon, Siam, and other countries, where, from examining the trees themſelves, he had an opportunity of correcting the error which before prevailed.

By the favour of that juſtly celebrated botaniſt Sir Joſeph Banks, Baronet, the papers of Koning on this ſubject were put into the hands of Dr Murray: and from theſe he here furniſhes us with an exact deſcription of the tree which yields the genuine Gummi-Gutta, and which is both of a different genus and claſs from the Cambogia. By theſe papers, Dr Murray has alſo been enabled to give a more accurate deſcription of the Cambogia of Linnæus, which had formerly been deſcribed only from ſmall branches, inaccurate narrations, and bad plates.

To the firſt of theſe trees, Dr Murray gives the name of *Stalagmitis Cambogioides*. It is known, he obſerves, among the natives, by the names of *Ghokkatu*,

Ghokkatu, *Gokathu*, or *Ghotathu*; and in the manuſcripts of Koning is ſtyled *Arbor gummi-guttæfera vera*. After giving a very accurate and particular deſcription of every part of it, he obſerves, that it falls under the claſs of polygamia, and order of monœcia; and he gives the following ſhort generic character of it.

Stalagmatis. *Floris maſc. Cal.* 4. s. 6. phyllus *Corol.* 4. s. 6. petala, ſtamina numeroſa, receptaculo carnoſa quadrangulari inſerta, ſubinde polydelpha. *Rudimentum Styli* ſubinde *Stigma* echinatum.

Floris hermaphrod. Cal. Cor. et *Stamina* ut in maſculo *Stigma* 3. s. 4. lobatum. *Bacca* globoſa, ſtylo et ſtigmate coronata.

This tree is chiefly to be conſidered as a native of the territory of Siam; for it is reported, that it has only been tranſplanted from thence to Ceylon. Even in the latter country, however, it is to be met with in abundance in uncultivated places; and there, for obtaining the juice, they wound with a ſharp ſtone different parts of the bark of the trunk. From theſe wounds a milky juice, about the conſiſtence of cream, exudes, which

is ſoon hardened by the heat of the ſun, conſtituting the genuine Gummi-Gutta.

After his obſervations on the Stalagmatis, Dr Murray preſents us, chiefly from the papers of Koning, with a more minute and accurate deſcription of the Cambogia Gutta than is to be found in the writings of Linnæus; for which, however, we muſt refer thoſe who wiſh to examine it to the diſſertation itſelf. This tree, which grows in abundance on the coaſt of Malabar, and is there known by the name of *Korka*, or *Korka-Ghas*, is likewiſe to be met with in the ſouth-weſt parts of Ceylon, and is there alſo cultivated in gardens, chiefly on account of its fruit. This tree alſo yields a gummi-reſinous juice, but differing conſiderably from the genuine Gummi-Gutta, particularly as being much leſs ſoluble in water, and of a more reſinous nature. In its fluid ſtate, it yields an acrid taſte; but when dried, it is entirely deſtitute of it. On the other hand, the genuine Gum-Gutta appears at firſt inſipid, but afterwards excites a ſenſe of acrimony in the mouth, with dryneſs of the fauces. This gum, Dr Murray thinks, ſhould be diſtinguiſhed by the name

name of *Gummi-Korkæ*; and he obſerves, that it does not appear that it is ever employed internally by the natives of Ceylon for medical purpoſes.

Another tree which yields a gummi-reſinous matter, nearly reſembling theſe two, is the Hypericum Bacciferum of Linnæus. Of this tree alſo, which again is a native of South America, and known in the Portugueſe ſettlements by the name of *Pao de Lacra*, Dr Murray gives a particular deſcription. It yields a gum, employed both as a paint and as a medicine; and from its near reſemblance to the genuine Gum-Gutta, it may, Dr Murray thinks, be ſtyled the *Gummi-Guttæ Americanum*.

XIV.

XIV.

A Treatiſe of the Materia Medica. By William Cullen, *M. D. Profeſſor of the Practice of Phyſic in the Univerſity of Edinburgh; Firſt Phyſician to his Majeſty for Scotland; Fellow of the Royal College of Phyſicians of Edinburgh, of the Royal Societies of London and Edinburgh, of the Royal Society of Medicine of Paris, of the Royal College of Phyſicians of Madrid, of the American Philoſophical Society of Philadelphia, of the Medical Society of Dublin, of the Royal Medical, and of the Royal Phyſico-medical Societies of Edinburgh. In two volumes.* 4to, Edinburgh.

IF the progreſs of medicine has been much retarded by fanciful and groundleſs theory, it has been no leſs ſo by what have been called falſe facts; and in no branch of the medical art have theſe abounded more than in

in the Materia Medica. Nor is this wonderful, when we conſider how difficult it is for us to trace the connection between cauſe and effect, even when we think we proceed upon the ſure ground of experience.

To thoſe, therefore, whoſe obſervations enable us to diſtinguiſh between truth and error, medical practitioners muſt ever conſider themſelves as much indebted. The work now before us, has, in our opinion, no inconſiderable claim to this merit; for the obſervations with which we are here preſented, are the reſult of uncommon genius and diſcernment, exerted with unwearied aſſiduity for a period of fifty years. The nature of our work, however, will not admit of ſuch an analyſis as will convey to our readers any proper idea of the particular obſervations it contains; and we ſhall only endeavour to give them a general idea of the manner in which the ſubject is here treated.

Dr Cullen begins his work with the Hiſtory of the Materia Medica, containing an account of the principal writers upon that ſubject. In this hiſtory, he delivers a ſhort, but judicious opinion of the chief writers on this ſubject, from

from the days of Hipprocates to the preſent time, candidly pointing out the merits and demerits of each. The works which he repreſents as, upon the whole, beſt deſerving attention, are, The Experimental Hiſtory of the Materia Medica, by Dr Lewis, as publiſhed by Dr Aikin; the Materia Medica e regno vegetabili of Profeſſor Bergius; and the Apparatus Medicaminum of Profeſſor Murray. Theſe books he the rather recommends to the attention of the induſtrious ſtudent, as they point out the grounds of many of thoſe reflections which he offers in the work now before us.

Before entering on the conſideration of particular medicines, Dr Cullen thinks it proper to treat of what relates to the operation of all of them. Without entering particularly into his obſervations on this ſubject, we may only remark, that he conſiders the peculiar effect of ſubſtances in general, and of thoſe ſubſtances in particular which we call Medicines, when applied to the human body, to depend on their action upon its ſenſible and irritable parts.

The

The various modifications to which the actions of remedies are ſubjected, according to the different circumſtances in which the body may happen to be, and that either throughout the whole of life in different perſons, or upon particular occaſions in the ſame perſon, lead him to the conſideration of the different temperaments, as they have been called. Here he endeavours to conſider thoſe circumſtances of the internal ſtate of the body, which may give occaſion to a difference in the ſtate of the functions, and even in the external appearances which diſtinguiſh different men. Theſe circumſtances, he thinks, may be referred to five general heads, viz. as they occur, 1*ſt*, In the ſtate of the ſimple ſolids. 2*dly*, In the ſtate of the fluids. 3*dly*, In the proportion of the ſolids and fluids in the body. 4*thly*, In the diſtribution of the fluids. And, 5*thly*, In the ſtate of the nervous power. On each of theſe he offers many ingenious and important obſervations; and after this he proceeds to treat of particular temperaments. Two temperaments which have been admitted in all ages, and which he thinks can be moſt clear-

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ly diſtinguiſhed, are, the Sanguine, and the Melancholic.

In the firſt of theſe, the hair is ſoft, and never much curled; is of a pale colour, or from thence paſſing through different ſhades to a red; the ſkin is ſmooth and white, the complexion ruddy, the eyes commonly blue, the habit of the body ſoft and plump. After the period of manhood, thoſe of this habit are diſpoſed to obeſity, and at all times readily ſweat upon exerciſe. The ſtrength of the whole body is moderate, and the mind ſenſible, irritable, chearful, and unſteady. In this temperament Dr Cullen ſuppoſes the ſimple ſolids to be lax, the maſs of blood to be of a moderate conſiſtence; the red globules and ſerum to be in large proportion, and the ſeroſity to be of moderate acrimony. He preſumes the heart to be active, and rather ſtrong with reſpect to the ſyſtem of blood-veſſels; the quantity of blood in the arteries large with reſpect to that in the veins; the quantity of fluids in the whole body large in proportion to the quantity of ſolids; the ſtate of the nervous ſyſtem to be ſenſible and irritable, but readily changeable.

In

In the Melancholic, the hair is hard, black, and curled; the ſkin is coarſer, and of a dun colour, with a correſponding complexion; the eyes are conſtantly black, the habit of body rather hard and meagre; the ſtrength conſiderable; the mind ſlow, diſpoſed to gravity, caution, and timidity; with little ſenſibility or irritability, but tenacious of all emotions once excited, and therefore of great ſteadineſs. In this temperament he ſuppoſes the ſimple ſolids to be firm and denſe; the maſs of blood to be of a thicker conſiſtence; the gluten abundant; the red globules and ſerum in moderate quantity; the ſeroſity more acrid; the heart rather torpid, but ſtrong; the quantity of blood in the veins large with reſpect to that in the arteries; and the quantity of fluids in the whole ſyſtem moderate in proportion to the ſolids; the ſtate of the nervous ſyſtem to be leſs ſenſible and irritable, but ſtrong and ſteady, and diſpoſed to admit the reflex ſenſations of ſadneſs and fear.

Theſe two temperaments, however, are ſeldom perfectly formed; and hence ariſes the variety to be met with among the human ſpecies. But while the operation of medicines

is

is concerned with the general ſtate or temperament of the conſtitution, ſo it is alſo much concerned with peculiar conditions which take place in particular perſons, or in particular parts of the body. This leads him to ſome obſervations on idioſyncraſies. The greater part of theſe he ſuppoſes to conſiſt in a preternatural degree of the ſenſibility or irritability of certain parts of the ſyſtem, or in a peculiar ſenſibility or irritability of the whole body, or in particular parts of it, with regard to certain applications, and to theſe only.

Dr Cullen next makes ſome obſervations on the different means by which we learn the operation of medicines. And here he delivers his ſentiments reſpecting the information to be derived from chemical examination, from botanical affinity, from ſenſible qualities, and from former experience. He acknowledges in ſeveral reſpects the utility of all theſe modes of inveſtigating the virtues of medicines, and the advantages that may be derived from due attention to them; but at the ſame time he points out the fallacies to which all of them, even experience, is liable; and he mentions no leſs than eight different

caſes

caſes of what he calls falſe experience, all of which have led to numerous errors in the Materia Medica.

To theſe introductory obſervations, Dr Cullen ſubjoins an explanation of the general terms employed by writers on the Materia Medica. Theſe terms are here arranged in alphabetical order; and after giving an explanation of each, he offers remarks on the idea on which they are founded, pointing out how far, in his opinion, it has or has not a foundation in nature.

We are next preſented with the general arrangement which Dr Cullen follows in treating of the Materia Medica, under the following tabular form:

MATERIÆ MEDICÆ TABULA GENERALIS, in qua Medicamenta ad Capita quædam ſecundum indicationes morborum curatorias quibus reſpondent, referuntur.

Materia Medica conſtat ex

NUTRIMENTIS, quæ ſunt,

Cibi,

Potus,

et quæ cum his aſſumuntur Condimenta.

MEDICAMENTIS, quæ agunt in
Solida.
Simplicia.
Aſtringentia,
Tonica,
Emollientia,
Erodentia.
Viva.
Stimulantia,
Sedantia.
Narcotica,
Refrigerantia.
Antiſpaſmodica.
Fluida.
Immutantia.
Fluiditatem.
Attenuantia,
Inſpiſſantia.
Miſturam.
Acrimoniam corrigentia.
In genere
Demulcentia.
In ſpecie
Antacida,
Antalkalina,
Antiſeptica.

Eva-

Evacuantia.

Errhina,
Sialogoga,
Expectorantia,
Emetica,
Cathartica,
Diuretica,
Diaphoretica,
Menagoga.

After this general view of the arrangement of his ſubject, he ſubjoins a catalogue of the different ſimples which fall under each of theſe diviſions. The particular articles which fall under his different claſſes of medicines, aſtringents, tonics, emollients, and the like, agree, it may naturally be ſuppoſed, very much with the enumeration of other authors who have adopted the ſame claſſes. But as his catalogue of nutriments is, in our opinion, in many particulars more methodical and complete than any we have ever met with, we ſhall here preſent it to our readers at full length.

NUTRIMENTA.

CIBI.

I. EX VEGETABILIBUS.

A. FRUCTUS.

a. *Acido-dulces recentes.*

Drupaceæ.

CERASUS,
Prunus Ceraſus,
Cherry.

PRUNUS,
Prunus domeſtica,
Plum.

MALUM ARMENIACUM,
Prunus Armeniaca,
Apricot.

MALUM PERSICUM,
Amygdalus Perſica,
Peach and Nectarine.

Pomaceæ.

MALUM HORTENSE,
Pyrus mala,
Apple.

PYRUS HORTENSIS,
Pyrus communis,
Pear.

AURANTIUM,
Citrus Aurantium,
Seville Orange,
China Orange.

Fructus.

Pomaceæ.

LIMONIUM,
Citrus Medica,
Lemon.

Senticoſæ.

FRAGA,
Fragaria veſca,
Strawberry.

RUBUS IDÆUS,
Rubus Idæus,
Raſpberry.

Ribeſiæ.

RIBES RUBRUM,
Ribes rubrum,
Red currant.

RIBES NIGRUM,
Ribes nigrum,
Black currant.

GROSSULARIA,
Ribes groſſularia,
Gooſeberry.

UVÆ VITIS,
Vitis vinifera,
Grapes.

b. *Acido-dulces ſiccatæ.*

UVÆ PASSÆ MAJORES,
Vitis vinifera,
Raiſins.

UVÆ

Fructus.

Acido-dulces ſiccatæ.

UVÆ PASSÆ MINORES,
Vitis vinifera apyrena,
Dried currants.

CARICÆ,
Ficus carica,
Fig.

DACTYLI,
Phœnix dactylifera,
Date.

Cucurbitaceæ.

CUCUMIS,
Cucumis ſativus,
Cucumber.

MELO,
Cucumis melo,
Melon.

B. HERBÆ OLERACEÆ.

ATRIPLEX,
Atriplex hortenſis,
Orache.

BETA,
Beta vulgaris,
Beet.

SPINACIA,
Spinacia oleracea,
Spinage.

VALERIANELLA,
Valeriana locuſta,
Lamb lettuce.

Herbæ Oleraceæ.

Siliquoſæ.

BRASSICA,
Braſſica oleracea,
Colewort and cabbage.

NASTURTIUM HORTENSE,
Lepidium ſativum,
Garden creſs.

NASTURTIUM AQUATICUM,
Syſimbrium naſturtium,
Water-creſs.

Semifloſculoſæ.

CICHORIUM,
Cichorium Intybus,
Succory.

ENDEVIA,
Cichorium Endevia,
Endive.

DENS LEONIS,
Leontodon Taraxacum,
Dandelion.

LACTUCA,
Lactuca ſativa,
Lettuce.

Umbellatæ.

CELERI,
Apium graveolens,
Celery.

PETROSELINUM,
Apium petroſelinum,
Parſley.

Capitatæ.

Herbæ Oleraceæ.
Capitatæ.
CINARA,
Cinara ſcolymus,
Artichoke.

ASPARAGUS,
Aſparagus officinalis,
Aſparagus.

C. RADICES.
Siliquoſæ.
RAPHANUS,
Raphanus ſativus,
Radiſh.

RAPUM,
Braſſica rapa,
Turnip.

Umbellatæ.
DAUCUS,
Daucus carota,
Carrot.

PASTINACA,
Paſtinaca ſativa,
Parſnip.

SISARUM,
Sium ſiſarum,
Skirret.

Semifloſculoſæ.
SCORZONERA,
Scorzonera Hiſpanica,
Viper's graſs.

TRAGOPOGON,
Tragopogon porrifolium,
Salſafy or Goat's beard.

Radices.
Alliaceæ.
ALLIUM,
Allium ſativum,
Garlic.

PORRUM,
Allium porrum,
Leek.

CEPA,
Allium Cepa,
Onion.

CEPA ASCALONICA,
Allium aſcalonicum,
Shallot.

SCORODOPRASUM,
Allium ſcorodoprаſum,
Roccambole.

Farinoſæ.
BATTATAS,
Solanum tuberoſum,
Potatoes.

SALEP,
Orchis morio,
Salep.

D. SEMINA.
Cerealia.
HORDEUM,
Hordeum vulgare,
Barley.

AVENA,
Avena ſativa,
Oat.

SECALE,

Semina.
Cerealia.
SECALE,
Secale cereale,
Rye.

MILIUM,
Panicum miliaceum,
Millet.

TRITICUM,
Triticum hybernum,
Wheat.

ORYZA,
Oryza ſativa,
Rice.

MAIZ,
Zea Mays,
Maize.

Cerealibus affinia.
SAGO,
Cycas circinalis,
Sago.

FAGOPYRUM,
Polygonum Fagopyrum,
Buck wheat.

CASTANEA,
Fagus Caſtanea,
Cheſnut.

Legumina.
PISUM,
Piſum ſativum,
Pea.

Semina.
Legumina.
FABA,
Vicia Faba,
Bean.

PHASEOLUS,
Phaſeolus vulgaris,
Kidney bean.

Nuces oleoſæ.
AMYGDALUS,
Amygdalus communis,
Variat dulcis,
amara,
Sweet almonds,
Bitter almonds.

AVELLANA,
Corylus avellana,
Filbert.

CACAO,
Theobroma cacao,
Chocolate.

JUGLANS,
Juglans regia,
Walnut.

PISTACHIO,
Piſtachia vera,
Piſtachio nut.

Sepiariæ.
OLIVÆ,
Olea Europæa,
Olives.

E. FUNGI.

E. FUNGI.

AGARICUS CAMPESTRIS,
Common eſculent muſhroom.

PHALLUS ESCULENTUS,
Morell.

LYCOPERDON TUBER,
Truffle.

II. EX ANIMALIBUS.

A. QUADRUPEDIA.

a *Lac:*

Fœminæ,
Aſinæ,
Equæ,
Vaccæ,
Capræ,
Ovis.

b. *Carnes.*

Pecora.

Bos,
Bos Taurus,
The ox.

OVIS,
Ovis Aries,
The ſheep.

CAPER,
Capra Hircus,
The goat.

CERVUS,
Cervus Elephas,
The hart, ſtag, or red-deer.

Carnes.

Pecora.

CERVUS,
Cervus Dama,
Buck or fallow deer.

CERVUS,
Cervus Capreolus,
Roebuck.

Glires.

LEPUS,
Lepus Timidus,
The hare.

CUNICULUS,
Lepus Cuniculus,
The rabbit.

Belluæ.

SUS,
Sus Scrofa,
The hog.

B. AVES.

Gallinæ.

GALLUS,
Phaſianus Gallus,
Dunghill fowl.

PHASIANUS,
Phaſianus Colchicus,
Pheaſant.

GALLO PAVO,
Meleagris Gallo pavo,
Turkey.

PAVO,
Pavo criſtatus,
Peacock.

MELEAGRIS,

Aves.
Gallinæ.

MELEAGRIS,
Numida Meleagris,
Guiney hen.

PERDIX,
Tetrao Perdix,
Partridge.

COTURNIX,
Tetrao coturnix,
Quail.

LAGOPUS,
Tetrao lagopus,
Ptarmigan.

TETRAO RUFESCENS,
Bonasa Scotica,
Muirfowl or grouse.

TETRIX,
Tetrao Tetrix,
Black cock.

UROGALLUS,
Tetrao urogallus,
Cock of the mountain.

Anseres.

ANAS DOMESTICA,
Anas Boschas,
Common duck.

QUERQUEDULA,
Anas Crecca,
Teal.

Aves.
Anseres.

ANSER DOMESTICUS & FERUS,
Anas anser,
Tame and wild Goose.

ANSER BASSANUS,
Pelicanus bassanus,
Solon goose.

ALCA,
Alca Torda,
Razor-bill or marrot.

LARUS,
Larus Tridactylus,
Kittiwake.

Grallæ.

SCOLOPAX,
Scolopax rusticola,
Woodcock.

GALLINAGO MINOR,
Scolopax Gallinago,
Snipe.

ARQUATA,
Scolopax arquata,
Curlew.

TRINGA,
Tringa Squatarola,
Grey plover.

CHARADRIUS,
Charadrius pluvialis,
Green plover.

RALLUS,

Aves.
Gallæ.
RALLUS,
Rallus Crex,
Land rail.

Paſſeres.
COLUMBA,
Columba œnas,
Pigeon.

ALAUDA,
Alauda arvenſis,
Lark.

VOLUCRUM OVA.

C. AMPHIBIA.
Amphibia reptilia.
TESTUDO,
Teſtudo mydas,
Tortoiſe.

RANA,
Rana eſculenta,
Frog.

Amphibia Serpentia.
VIPERA,
Coluber berus,
Viper or adder.

Amphibia Nantia.
BATIS,
Raia batis,
Skate.

CLAVATA,
Raia clavata,
Thornback.

D. PISCES.
ANGUILLA,
Muræna anguilla,
Eel.

ANARCHICAS,
Anarchicus lupus,
Wolf-fiſh or cat-fiſh.

GADUS,
Gadus Morhua,
Cod.

GADUS ÆGLEFINUS,
Haddoc.

GADUS MERLANGUS,
Whiting.

FABER,
Zeus Faber,
The doree.

PLEURONECTES,
Pleuronectes rhombus,
Turbot.

PLEURONECTES SOLEA,
The Sole.

PLEURONECTES FLESUS,
Grey Flounder.

PERCA,
Perca Fluviatilis,
Perch.

SCOMBER,
Scomber Scomber,
Mackrel.

SALMO,

Piſces.

SALMO,
Salmo ſalar,
Salmon.

ESOX LUCIUS,
The pike.

CULPEA HARENGUS,
Herring.

CULPEA ENCRASICOLUS,
Anchovy.

CYPRINUS CARPIO,
Carp.

CYPRINUS TRINCA,
Tench.

E. INSECTA.

CANCER,
Cancer pagurus,
Common crab.

CANCER GAMMARUS,
The lobſter.

CANCER ASTACUS,
The Crayfiſh.

Piſces.

Inſecta.

CANCER SQUILLA,
The prawn.

F. VERMES.

PECTUNCULUS VULGARIS,
Cardium edule,
Cockle.

OSTREA,
Oſtrea edulis,
Common oyſter.

MYTILUS,
Mytilis edulis,
Common muſcle.

POTUS.

Aqua et aquoſa.
Potus Fermentati.
Cereviſia.
Vinum.

CONDIMENTA ET CONDITA.

Aromata et acria.
Saccharo, ſale, vel aceto condita.

In the above liſt of the Nutrimenta, the articles are arranged according to the natural affinities which they have with each other; and the reader is preſented with the Pharmaceutical, the Linnæan, and the Engliſh name of each article. The pharmaceutical or officinal name is printed in capital

pital letters, the Linnæan in Italics, and the Engliſh name in the Roman character, excepting in thoſe caſes where the Linnæan and officinal names are the ſame, and then capitals only are in general employed, without any repetition of the name.

After the liſt of the Nutrimenta, Dr Cullen has next given that of Medicamenta; which, however, as we have already ſaid, does not differ materially from the liſts of other writers who have adopted the ſame claſſes. But at the ſame time, the intelligent reader will readily perceive, that there is much merit in the inferior diſtributions into which claſſes are divided: but for this liſt we muſt refer him to the work itſelf.

After giving a catalogue of the Materia Medica, Dr Cullen next proceeds to treat of Aliments; and he ſets out with offering ſome obſervations on aliments in general. Here he obſerves, that the aliments of the human ſpecies are taken entirely either from other animals, or from vegetables. But as all animal ſubſtances may be traced to a vegetable origin, his obſervations are almoſt entirely with regard to theſe laſt. From various conſiderations, he endeavours to ſhow, that the chief vegetable matters

matters affording aliment, are acid, ſugar, and oil. He indeed admits, that the experiments of Beccaria and others, have diſcovered a ſubſtance in certain vegetables, which probably makes a part of the nouriſhment which they afford; and he allows, that this newly diſcovered matter approaches more nearly to the nature of animal ſubſtance, than any other part of vegetable matter with which we are acquainted. Still, however, he thinks that this diſcovery cannot invalidate his opinion, that the chief part of the aliment afforded by vegetables, depends upon acid, ſugar, and oil, to be compounded by the powers of the animal œconomy. That acid, ſugar, and oil, are matters which really enter into the compoſition of the animal fluids and ſolids, will not be denied; but at the ſame time, in our opinion, Dr Cullen has attributed much leſs than its due ſhare to the *gluten vegeto-animale*, as it has been very properly ſtyled; an article which, it is now found, may be extracted in abundance, not only from wheat, but alſo from many other vegetables, eſpecially from potatoes.

After theſe general obſervations, Dr Cullen next proceeds to treat of particular aliments.

In

In ſpeaking of theſe, he follows the ſame order as in the liſt we have already given. But to take even the ſlighteſt notice of his remarks on each, would very far exceed thoſe limits which we muſt neceſſarily fix to ourſelves in this work. We muſt therefore be contented with giving an account of what he has ſaid of a few of them only.

The ſummer-fruits are all of them, he obſerves, uſeful in quenching thirſt, which they do, partly by their cooling quality, and partly by ſtimulating, and thus drawing forth a liquid from the mucous excretories of the mouth and fauces. They exert alſo a ſimilar effect upon the ſtomach. Thus they excite appetite, while, at the ſame time, they diminiſh the action of the ſanguiferous ſyſtem. This, joined to their antiſeptic powers, renders them of the greateſt utility in every kind of febrile diſorder.

The oleraceæ, he obſerves, contain ſome proportion of ſugar, but ſo little, that they are juſtly ſuppoſed to be among the weakeſt nutrients. They are commonly ſaid to be laxative; but Dr Cullen thinks they are not more ſo than any other vegetables capable of fermenting in the ſtomach, and taken into it in large

large quantity. After ſome remarks on the different ſpecies of braſſica which have been moſt frequently in uſe as olera, he remarks, that he has lately reared in his own garden the Braſſica gongylodes, which, as far as he can learn, has not been before known or produced in Britain, and which, he is of opinion, may, under proper management, afford a delicacy for the table.

The roots of plants Dr Cullen conſiders as commonly containing more nutritious matter than their leaves; and he agrees with Mr Parmentier, that a great number of roots, never before thought of as eſculent, contain a quantity of farinaceous matter, which may, upon occaſion, afford an aliment. He however takes notice only of thoſe commonly employed as food in this country, in the ſtate in which nature preſents them to us, and hardly requiring any other preparation than the ordinary one of the kitchen. Of the different ſpecies of turnip, he conſiders the yellow turnip, which is of a more ſweet and mucilaginous taſte, as being more nutritious than the white. As the carrot yields a great deal

of

of ſweet and melliginous juice, he thinks this a ſtrong mark of its nutritious quality.

The ſeeds of plants are, he thinks, chiefly nutritious, from containing a farinaceous matter, and as ſuch they make the moſt conſiderable part of the aliment of men over almoſt the whole of the earth. He conſiders wheat as having this advantage over all the other of the Cerealia, that it can be formed into a more perfect bread than any of them with which we are acquainted; but at the ſame time he thinks, that a great deal too much has been ſaid of the noxious effects of unfermented farinacea. The gelatinous ſtate of ſago, points it out as a matter poſſeſſed of conſiderable nutrient powers; and being readily ſoluble, it is properly given as an aliment to weakly perſons. From the gelatinous quality of ſalep, it may alſo be preſumed to be nutrient; but he is of opinion, that its quality in this reſpect has been greatly overrated. Potatoes, he obſerves, afford a large proportion of amylum, preciſely of the ſame nature with that of wheat, or any of the other cerealia: their nutritious quality is now, he obſerves, aſcertained by the experience

perience of all Europe; but as they contain a conſiderable proportion of water, they cannot, he thinks, be ſuppoſed to give, in proportion to their bulk, ſo much nouriſhment as the cerealia do.

The ſeeds of the legumina, when triturated with water, give a more milky ſolution than the cerealia; and in their germination they ſhow a conſiderable quantity of ſaccharine matter. From containing an equal quantity of ſugar, and a ſuperior proportion of oil, Dr Cullen looks upon them as more nouriſhing than the cerealia; and this, he thinks, is confirmed by daily experience, not only in brutes, but alſo in the human ſpecies. Labourers, he obſerves, fed for ſome time on them, and afterwards fed on the cerealia, ſoon find a decay of ſtrength. It is owing, he thinks, to the leguminous ſeeds being of a more oily quality, that they are not of ſo eaſy ſolution as the cerealia, and that therefore they are fitted only to the more robuſt people. Of the legumina, peaſe, though leſs nutrient than the bean, are generally more tender, and therefore are moſt frequently on our tables in their full grown ſtate.

The nuces oleoſæ are, Dr Cullen obſerves, farinaceous ſeeds which have a large proportion of oil in their compoſition; and this can be readily obtained in its ſeparate ſtate, either by expreſſion, or by heat. As this oil reſiſts fermentation, theſe are difficult of digeſtion, lie long on the ſtomach, and often feel uneaſy there. Of the oily farinacea, he conſiders the cacao, or chocolate, as being equally nutritious with any other, and leſs offenſive to the ſtomach; and he adds, that it is always more eaſily digeſted, as its oily and farinaceous parts are, by its preparation, more intimately united together.

Aliments taken from the animal kingdom are ſomewhat different, as they are taken from one or other of the ſix claſſes of mammalia, aves, piſces, amphibia, inſecta, and vermes. Each of theſe, therefore, he conſiders ſeparately. And the firſt article of which he treats, is milk. Into this ſubject he enters at great length, confining himſelf, however, to ſuch as are uſed in aliment in this country; the milk, viz. of women, and of the domeſtic animals, aſſes, mares, cows, goats, and ſheep.

Here

Here he particularly conſiders the nature and qualities of the oily part or cream, the coagulable part or curd, and the watery part or whey. After treating of the general qualities of milk, and of the different ſtates of it which may take place in the ſeveral ſpecies of animals, or even in the ſame individual at different times, he treats of the uſe of milk as an alimentary matter. There can, he thinks, be no doubt, that milk is particularly intended for the nouriſhment of the new-born offſpring; and for this he thinks it is eſpecially ſuited, as being an intermediate aliment, partaking both of the vegetable and animal nature. But while milk is thus fitted for young animals, it appears clearly, Dr Cullen obſerves, that in a certain proportion it is an aliment well ſuited to every period of life, and might be conſtantly employed, except in certain perſons whoſe ſtomachs do not ſeem to digeſt it properly.

After his obſervations on milk as an aliment, he next treats of it as a medicine. As milk is more readily than any other aliment formed into chyle, wherever the digeſtive organs are

weak, it may, more certainly than any other matter, ſupply nouriſhment to the body. Upon this account it is a reſtorative medicine, in caſes of emaciation and debility. He conſiders it alſo as well fitted to correct and expel every fault that may take place in the fluids. On theſe grounds, he obſerves, it may operate as a remedy in various diſeaſes; and in illuſtration of this, he makes ſome remarks on its uſe in caſes of phthiſis pulmonalis, of gout, and of fever. He thinks, however, that entire milk is ill adapted to fever; it is, he affirms, more agreeable, and anſwers better every purpoſe that can be propoſed, in its more liquid and acid ſtates.

Dr Cullen next treats of animal food ſtrictly ſo called; that is, food conſiſting of the whole, or of a part of the ſubſtance of animals. In his opinion, that quality of animal ſubſtances, fitting them to be aliments, which firſt deſerves to be mentioned, is the degree of ſolubility in the human ſtomach; and the condition which eſpecially gives more or leſs ſolubility, is the different firmneſs of texture. He points out, at conſiderable length, a variety of particulars by which this will be influenced. Aliments will,

will, he obſerves, be more or leſs quickly diſſolved by the gaſtric juice, according to the degree of ſolubility in each, as determined by the circumſtances he mentions: but whether there be any limits ſet to the powers of the gaſtric juice, with reſpect to its more or leſs complete ſolution of all the parts of the ſubſtance which it anywiſe diſſolves, he does not pretend poſitively to determine. The gaſtric juice of the human ſtomach does not diſſolve the bones or cartilages of animals. Perhaps it diſſolves the more firm and membranous parts leſs completely than it does the fleſhy; and it ſeems to be the latter only which it diſſolves very entirely. He thinks it a matter of ſome doubt whether it makes any decompoſition even of theſe, as decoction in water does, and thus leaves ſome portion of their earthy parts undiſſolved. At the ſame time he conſiders this decompoſition as improbable; and concludes, therefore, that the quantity of nouriſhment in any meat which the gaſtric juice entirely diſſolves, is in proportion to the quantity of animal matter which it contains.

In ſpeaking of the general effects of aliments taken from quadrupeds upon the human conſtitution, he obſerves, that in proportion to the quantity taken in, they give more nouriſhment than any vegetable aliments. He conſiders animal food, therefore, as always ready to produce a plethoric ſtate. He thinks, that, in growing bodies, it will always favour, and probably haſten growth; and in adults, have a tendency to produce a plethora ad volumen. As containing a greater proportion of oily matter, they occaſion, he thinks, a greater ſecretion of oil into the adipoſe membrane, and thus produce obeſity, which, from ſtraitening the ſanguiferous veſſels, gives riſe to a plethora ad ſpatium. From its tendency to fill the veſſels, it muſt ſupport a conſtant tenſion of theſe; and thus it will both give a greater degree of ſtrength to the body, and increaſe the irritability of the ſyſtem.

When a plethoric ſtate is induced by animal food, as the balance between the ſeveral parts of the ſyſtem may not always be exact, a peculiar increaſe of tenſion may take place in the veſſels of the brain, of the lungs, of the liver, in the arterial, or in the venous ſyſtem.

Thus

Thus it may give riſe to epilepſy, aſthma, hæmorrhagy, and a variety of other diſeaſes. Hence he concludes, that though a proper meaſure of ſuch aliment may render it long conſiſtent with health; yet, as the conſtant uſe of it gives a nicer balance to the ſeveral parts of the ſyſtem, every unuſually large indulgence in it muſt be extremely dangerous.

After his remarks on the qualities of aliment taken from quadrupeds in general, he next proceeds to conſider how far theſe qualities are diverſified in the different genera and ſpecies. This leads him to make particular remarks on the aliment derived from the fleſh of the ox, ſheep, goat, ſow, deer, rabbit, &c. into the detail of which, however, we cannot propoſe to enter; and may only in general obſerve, that he conſiders the differences as chiefly depending on the degree of denſity, of alkaleſcency, and of fat.

Dr Cullen next treats of the aliment taken from birds. Here he conſiders the general doctrine with reſpect to ſolubility, alkaleſcency, and nutritious quality, as equally applicable; and therefore proceeds immediately to treat of the particular ſpecies. He points out the

differences which take place in theſe particulars, upon a compariſon of different genera, referred to the orders of gallinæ, anſeres, grallæ, and paſſeres, a great number of which are employed in aliment. He concludes this ſubject with ſome obſervations on eggs. This ſubſtance, he obſerves, is peculiarly fitted to the formation of the young animal, and may therefore naturally be ſuppoſed to contain a large proportion of nutritious matter: at the ſame time, he thinks it a leſs alkaleſcent food than almoſt any other animal ſubſtance, and during its digeſtion leſs ſtimulant. He is of opinion, that very little difference takes place in the qualities of the eggs of different birds. It is certain, that in many inſtances the peculiar odour and taſte of the fleſh of the bird is in no degree communicated to their eggs; and although, even in the eggs of our domeſtic fowl, ſome difference may be obſerved in the taſte of the yolks, and denſity of the white, yet all eggs are ſtill ſo much of a common nature, that he thinks their difference as aliment is hardly to be aſſigned.

After ſeveral obſervations on particular aliments taken from the claſſes of amphibia, fiſhes,

fiſhes, inſects, and worms, he concludes this ſubject with a few obſervations on the cookery of meats. This, he obſerves, with reſpect to vegetables, conſiſts in the application of heat, the advantages of which ſeem to be, that moſt part of vegetable ſubſtances are thereby rendered more ſoluble in the human ſtomach; that the volatile parts of vegetable ſubſtances, which are ſeldom of a nutritious nature, and in many caſes have a tendency to prove noxious, are ſeparated; and that there takes place the extrication of a conſiderable quantity of air, which in the natural ſtate of vegetables is always fixed in their ſubſtance. With reſpect to animal ſubſtances, it conſiſts alſo in the application of heat, applied either in a humid form, as boiling and ſtewing; or in a dry form, as roaſting, broiling, and baking. On each of theſe he makes ſome remarks, as rendering them tender, as extracting ſoluble parts, as removing moiſture, and the like. After dreſſing, meats, as preſented to the table, differ farther by their ſauces, which have for their baſis either oily matter, or ſtrong gelatinous extracts from other meats.

All

All drinks which ſupply the neceſſary liquid to the body, do it, Dr Cullen obſerves, only by the quantity of elementary water which they contain. He conſiders drink, therefore, as of two kinds; either pure water, or water with certain additions made to it by art. Simple water, which is the only liquid taken in under the appetite of thirſt by the whole of the brute creation, may from thence, he thinks, be the liquid in general preſumed to be very well ſuited to the animal œconomy. To water, additions are ſometimes made of the acid juices of fruits, farinaceous matters, aromatics, tea, coffee, and other vegetable ſubſtances. After theſe additions, the qualities of the drink muſt depend upon the quality of the matter that has been added. But beſides theſe, liquors prepared by vinous fermentation are employed in every civilized nation. Theſe are of two kinds, as being prepared either from the juice of fruits, which may be known by the general appellation of wines, or as extracted by water from certain ſeeds or roots, which may be named ales. He points out at conſiderable length, the differences which take place in theſe, from the differences of the fermentable ſubject, from

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the different conduct of the fermentation, and from the different period of fermentation at which the liquor is taken: but ſtill he conſiders their qualities as chiefly ariſing from the alcohol they contain. This alcohol is ſometimes employed in its ſeparate ſtate, ſometimes with the addition of water, ſugar, acid, or the like. Theſe additions moderate its qualities, but never entirely remove them; and Dr Cullen conſiders alcohol, when ſeparated from the fermented liquor in which it is produced, as being always a more ſtimulant, inflammatory, and narcotic matter, than when it was blended with the other parts of the fermented liquor.

The ſubject of Nutriments is concluded with a few obſervations on Condiments. Theſe he conſiders as of two kinds, ſaline and acrid; and he offers ſome remarks on ſea-ſalt, ſugar, and vinegar, which are the chief condiments of the former kind. The acrid condiments he divides into two kinds, the aromatics, and the ſimple acrids; but, in both, he conſiders the effects as depending upon an eſſential oil, and as varying ſomewhat in proportion to its quality and quantity. The greater part, if not all

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of theſe, when properly and prudently uſed, ſtimulate the ſtomach, and promote digeſtion.

From theſe obſervations, which we have extracted from this firſt part of Dr Cullen's work, it muſt appear to the intelligent reader, that, from a careful peruſal of the work itſelf, he may derive much information reſpecting the nature of aliments, and the principles which ſhould lead to the proper and neceſſary ſelection of them, as adapted to particular caſes and conſtitutions; and this, we may add, is a ſubject which ſhould deſervedly engage the attention of every medical practitioner.

The ſecond part of Dr Cullen's work is appropriated to the conſideration of medicines, ſtrictly ſo called; and here he treats of each particular article in his liſt, referred to the twenty-three different claſſes which we have already mentioned. On thoſe articles which are but little employed, and unimportant, he reckons it ſufficient to offer only a very few obſervations; but on the more important articles, ſuch as camphor, mercury, opium, Peruvian bark, and the like, he beſtows very particular attention. We ſhall not, however, attempt to give even a ſummary view of his obſervations

ſervations reſpecting any of theſe. But we ſhall only in general obſerve, that he has endeavoured to aſcertain, from accurate obſervation in extenſive practice, thoſe properties which different articles of the Materia Medica do really poſſeſs; and, on the ſame baſis, he has endeavoured to refute the ill-grounded opinions formerly adopted, with regard to many ſuppoſed virtues which they do not in reality poſſeſs. In delivering the general doctrines of claſſes which are prefixed to the conſideration of the particular articles comprehended under each, he has given, in our opinion, a diſtinct and philoſophical view of the principles upon which they operate. On this ſubject, it muſt indeed be allowed, that even the ableſt practitioners ſtill differ very much in their ſentiments; and it cannot be denied, that a great deal of what is here ſaid reſpecting the operation of medicines, is little better than conjecture, ſupported by ſome probability. Perhaps we may even add, that whatever is ſaid upon this ſubject muſt neceſſarily remain in the ſame ſtate of doubt, till a more thorough knowledge be obtained, both of phyſiology and pathology; ſubjects, with regard to which, in an infinite number of particulars, we are

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ſtill almoſt totally in the dark. Thus, in the reaſonings of almoſt all modern phyſiologiſts, a great deal is ſaid reſpecting the brain and nerves. Our ignorance with regard to theſe, however, is univerſally confeſſed by every candid man. Anatomy has long ſince demonſtrated, that the brain is a very curious and delicate organ, conſiſting of a great number of different parts. We may infer, however, with no leſs certainty, that each particular has its particular uſe, than that they really do exiſt. Reſpecting the particular uſe of any of them, however, no phyſiologiſt has hitherto offered what can be conſidered even as a rational conjecture. Whatever, therefore, is ſaid reſpecting the operation of medicines, where this part of the ſyſtem is concerned, muſt be very uncertain. But it may at leaſt be ſaid, in favour of Dr Cullen's general doctrines, that he has ſupported his opinions with much ingenious ſpeculation. And even the well-informed practitioner cannot peruſe the remarks he has offered, as the reſult of his own obſervation and experience, without real benefit, both in the way of giving additional information, and of correcting error.

XV.

XV.

Juſti Arnemann, *M. D. in Academia Georgia Auguſta Profeſſoris Medicinæ Pub. Commentatio de Aphthis, quæ ab Illuſ. Reg. Soc. Med. Pariſienſi,* XXV. *Aug.* 1787, *palmam alteram obtinuit.* 8vo, Gottingæ.

THE diſſertation now before us, as appears from the title, obtained for its author the honour of a prize-medal from the Royal Society of Medicine of Paris; and it will not be denied, that it contains many ingenious and important remarks, reſpecting a ſubject which deſervedly claims the attention of every medical practitioner.

Dr Arnemann introduces this diſſertation with ſome obſervations on the antiquity of Aphthæ, uſed as the name of a diſeaſe. After mentioning the different ſenſes in which this term was employed by Hippocrates, Celſus, Galen, and other ancients, he obſerves, that

that Aphthæ were defined by Boerhaave to be ſmall round ſuperficial ulcers, occupying the inſide of the mouth. Our author, however, objects to the appellation of ulcers, as they can by no means be ſaid to yield pus. He thinks, therefore, that Aphthæ may be better defined to be, tumours of a white colour, or aſh colour, ſuperficial, round, and of a ſmall diameter, ſo as ſcarcely to exceed the ſize of a millet or hemp-ſeed, filled with a peculiar ſerous fluid, terminating in furfuraceous ſquamæ, and giving great pain. He obſerves, however, that he does not, by this definition, mean altogether to deny the exiſtence of ulcerous aphthæ; but, while theſe are leſs common, they ought, he thinks with greater juſtice, to be numbered among the ſymptomatic aphthæ.

Reſpecting the ſeat of this diſeaſe, he obſerves, that aphthæ chiefly appear on the whole internal ſurface of the mouth, lips, gums, tongue, and palate, where theſe mucous cryptulæ are the moſt numerous, which pour forth a thin fluid for lubricating theſe parts. Aphthæ, he imagines, are formed, when this fluid, rendered more viſcid than uſual, cannot be propelled through the extremities of the ducts.

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In the mean time, by the force of the fluid behind, the extremity of the obſtructed canal is raiſed above the ſurface; and thus the tumour called an aphtha is produced. He admits, however, that aphthæ do not occupy theſe parts alone, but that they are alſo ſometimes ſeated in the œſophagus, the ſtomach, and the inteſtines. This, he thinks, is demonſtrated, both from the great quantity of cruſts ſometimes diſcharged by ſtool, and likewiſe from diſſections.

Dr Arnemann next deſcribes thoſe appearances which commonly precede and attend the eruption. This diſeaſe, he obſerves, uſually occurs in infancy, but ſometimes attacks adults, and even old people; inſomuch, that neither age nor ſex can be conſidered as exempted from it. It is more a diſeaſe of cold and wet, than of warm and dry ſituations. Upon the firſt attack, infants, before cheerful, either ſhun the breaſt, or cannot ſuck. They become watchful, and frequently awake from ſleep with great terror. They cry much, both in the day and in the night. The inſide of the mouth becomes inflamed, and the tongue appears as if it were pricked. The

breath is hot, and a ſenſe of pricking heat is communicated from the mouth of the infant to the nipple of the nurſe. The pulſe is more quick than natural; and a ſlight degree of fever in general exiſts, which, however, in new-born infants, cannot eaſily be diſcovered.

During theſe ſymptoms, the cuticle becomes elevated in different places, and the aphthæ appear, principally on the tongue, the angles of the lips, and the fauces. As ſoon as they appear, they are filled with a thin fluid. This is, by degrees, converted into a thick, white, firm incruſtation, which gradually covers the whole inſide of the mouth, as far as it is viſible. In point of colour, however, there is ſome variety. They are, in general, of a white or pearl colour; but, on the contrary, when they are ſo thick ſet as to give an uniform concrete appearance, they are, in general, of a yellow, brown, or even a blackiſh colour. Where the colour is white, the diſeaſe is the moſt favourable; on the contrary, the moſt dangerous appearance is a livid or dark purple hue. Their duration is very uncertain. Sometimes they fall off in one, two, or three days; but, in other caſes, they remain firm for many days.

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When the cruſts do fall off, a new danger often ariſes. The dilated veſſels now tranſmit a greater quantity of fluids, from whence a copious ſalivation ariſes, ſometimes even of a bloody tinge. The ſides of the inteſtines are excoriated, from whence ariſe diarrhœa and dyſentery; and even the ſofteſt food or medicine which can be ſwallowed, produces diſtreſſing hiccough, and even dreadful convulſions.

After this account of the ſymptoms, Dr Arnemann next proceeds to treat of the cauſes of aphthæ. He conſiders impurities of the primæ viæ as a principal cauſe of this affection; and theſe, he thinks, may either be attributed to the neglect of proper evacuation after birth, or to a variety of circumſtances which afterwards favour the generation of a colluvies; ſuch as bad milk, or improper food of other kinds.

From theſe conſiderations, he is led in the prophylaxis, to recommend, above all other things, the greateſt attention to cleanlineſs. Their linens, he obſerves, ought frequently to be changed, leſt an abſorption from the ſurface ſhould vitiate the maſs of fluids. It is alſo, he thinks, of great ſervice, that the mouths of

infants be frequently waſhed with cold water. The meconium ſhould be evacuated in due time; a diet ſhould be furniſhed to the infants, ſuited to their tender age; and they ſhould be entruſted to a careful nurſe. But if, notwithſtanding theſe precautions, gripes, and other ſigns of approaching aphthæ take place, the infant ſhould be copiouſly ſupplied with liquids, or, if it be ſtill upon the breaſt, liquids ſhould be given plentifully to the nurſe. The inſide of the mouth ſhould be carefully examined, and frequently waſhed and wiped, if white ſpots appear upon it: But, if ſuch a progreſs has taken place, the diſeaſe will rarely be altogether prevented, unleſs recourſe be had to purgatives, or emetics, which, by their concuſſion, may remove all the viſcid matters.

In the cure, Dr Arnemann conſiders emetics as deſervedly claiming a preference over every other remedy, while the fomes of the diſeaſe is ſtill in the ſtomach, and when anxiety, hiccough, fœtid eructations and vomiting are frequent. What he eſteems the beſt emetic, is Huxham's antimonial wine. From five to ten drops will be a ſufficient doſe with an infant a few weeks old; and it may be increaſ-

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ed in proportion to the age. If the firſt doſe do not operate, he adviſes that a ſecond be given, at the interval of an hour, and thus repeated, till the deſired effect be produced.

Purgatives alſo, are often, he obſerves, found to be productive of great benefit. Sometimes, however, he allows, a fatal hypercatharſis is produced. Care therefore ſhould be taken, that they be not given when the inteſtines are in an excoriated ſtate. But in the beginning and end of the diſeaſe, when the aphthæ are in the ſtate of falling off, they are, he thinks, of great ſervice in diſcharging theſe, and thus preventing the evils which might ariſe from their retention. The purgatives which he prefers are, thoſe of a gentle and lubricating nature, and which at the ſame time poſſeſs a ſtrengthening power; ſuch as, the tincture of rhubarb with magneſia. Theſe alſo, to avoid the danger of hypercatharſis, it is proper to employ in ſmall doſes, repeated at due intervals.

Among other aids, injections, he obſerves, are not to be neglected. Theſe glyſters may be compoſed of decoctions of burdock or graſs-roots, of water-gruel, barley-water, milk and water, or the like; but, if the belly be very

bound, they may be ſharpened by ſome purgative article.

Beſides theſe, ſuch medicines, our author obſerves, muſt be exhibited as forward the expulſion of the morbid matter. For this purpoſe, he recommends attenuant, demulcent, ſaponaceous and farinaceous drinks; ſuch as, decoctions of the taraxacum, althea, fœniculum, acetoſa, and the like.

The food of infants ſubjected to this diſeaſe, ſhould, according to Dr Arnemann, be liquid, light, and mild; and, if the infant be upon the breaſt, the nurſe ſhould be ſupported on ſuch food, avoiding all ſalted or high-ſeaſoned aliment.

In ſome caſes, particularly with very young infants, it is neceſſary that even medicines ſhould be given to the nurſe. And for this purpoſe, Dr Arnemann ſtrongly recommends the medicine propoſed by Dr Roſenſtein, under the title of *Pulvis Nutricum*, which conſiſts of equal parts of magneſia alba, orange-ſkins, fennel-ſeeds, and white ſugar reduced to a fine powder; and of this as much is to be taken two or three times every day as can be lifted on the point of a knife. He adviſes alſo the

copious

copious drinking of ptiſans of barley or oats, infuſion of linſeed, or the like; and he recommends likewiſe the powder of rhubarb with magneſia, the active powers of which, he affirms, are communicated from the nurſe to the infant by the milk.

While theſe internal remedies are employed, external aſſiſtance alſo is not to be neglected; for, by theſe, a more ſpeedy diſcharge of the aphthous cruſts may be procured. Gargariſms and waſhes, however, intended to act upon the affected parts, are of but little uſe with infants, as they are immediately ſwallowed; but he ſtrongly recommends a linctus, formed of honey, impregnated with the vitriolic acid, or with a ſolution of white vitriol; but after the aphthæ have fallen off, and the parts below are excoriated and tender, he adviſes, that the applications be entirely of the mildeſt and blandeſt kind; ſuch as, ſolution of gum-arabic, mucilage of quince-ſeed, ſyrup of poppies, and the like.

When the pain from the part begins to be diminiſhed, he adviſes, that recourſe be had to gentle aſtringents, by which the dilated veſſels may be braced. For this purpoſe, he

recommends melroſe or mulberry rob, acidulated with ſpirit of vitriol. Some, he obſerves, have recommended the decoctum corticis ulmi. But what he conſiders as entitled to the higheſt encomiums, are thoſe linctuses into which borax enters, compoſed with ſyrup of poppies, raſpberries, mulberries, or the like. But when theſe liniments are uſed, the mouth of the infant ſhould afterwards be wiped and cleaned either with tepid water, or with any of the ptiſans which have been already mentioned.

Theſe remedies, he obſerves, will in general be ſufficient for the cure of ordinary mild aphthæ. But before he concludes this ſubject, he offers a few obſervations reſpecting the treatment of ſymptoms with which even theſe are ſometimes attended. For obviating hiccough, he recommends that opiates ſhould be exhibited either to the mother or nurſe; and the ſyrup of poppies mixed with the ptiſan given to the infant. He recommends, that the diarrhœa, when violent, be counteracted by mucilaginous injection. Sometimes, he obſerves, it will be neceſſary to have recourſe to opiates; but theſe, he thinks, ſhould be uſed in a very

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ſparing and cautious manner. If ſalivation be immoderate, it may be checked by the aſtringent injections already mentioned. When other diſeaſes ſupervene on aphtha, theſe are to be treated in the manner beſt accommodated to the nature of the particular affection which may occur.

After theſe obſervations on aphthæ, occurring in their ordinary, and what may be called their mild ſtate, Dr Arnemann next treats of the malignant aphthæ of hoſpitals, particularly of thoſe hoſpitals fitted for the reception of infants. This ſpecies of aphtha has, he obſerves, at different times particularly prevailed in the hoſpitals at Paris. This diſeaſe in general appears a few days after birth. The mouth of the infant becomes gradually pale; it cries and complains almoſt inceſſantly both day and night; the body waſtes, and the ſkin becomes flaccid; it is diſtreſſed with thirſt, gripes, vomiting, and acid eructations. A continual diarrhœa is preſent, the ſtools being ſometimes watery, ſometimes of a greeniſh colour, and giving out a ſtrong fœtid or acid ſmell. In the mean time, fever is excited, the heat is increaſed, the pulſe becomes frequent,

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and convulſions ſometimes ſupervene. Small white tumours now become obvious on the lips, ſometimes degenerating into real puſtules. Theſe by degrees affect the uvula, tongue, palate, tonſils, and the whole tract of the inteſtinal canal. Nay, even from the eroſion of the fæces, puſtules are diſcovered about the anus very much reſembling aphthæ; and it is even not unfrequent for aphthæ to appear about the mammæ of the nurſe. The malignant aphthæ are diſtinguiſhed, by the ſymptoms preceding the eruption being numerous and ſevere; by their coming out very thick; by their being of a yellow, opaque, or brown colour; and when they fall off, new and thicker incruſtations are immediately formed; and at length, general waſting of the habit, the Hippocratic face, and death, enſue.

It has been matter of diſpute, whether the malignant aphthæ are to be conſidered as contagious or critical. Countenance is given to the former of theſe opinions, from their prevailing generally in thoſe houſes fitted for the reception of very young children; but this, our author thinks, may be ſufficiently explained, from all the children in any one ſuch houſe being

being ſubjected to the ſame treatment, whether good or bad. With ſtill leſs reaſon can they, in his opinion, be ſtyled critical, when it is conſidered, that from the timely uſe of evacuants, diſcharging the matter from the alimentary canal, they may be removed.

With reſpect to the cauſe of the malignant aphthæ, he obſerves, that if it be eſtabliſhed by experience, that the general cauſe of aphtha is placed in impurity in the primæ viæ, and that the ſymptoms which accompany the malignant, ſuch as anxiety, fœtid diarrhœa, and the like, are the ſame with what occur in fevers from an affection of the alimentary canal; there can, he thinks, be little doubt in referring aphtha to the number of gaſtric diſeaſes, and in concluding that theſe malignant aphthæ differ only from the common kind in degree; and this he aſcribes to the treatment to which children muſt neceſſarily be ſubjected in thoſe hoſpitals fitted for their reception.

In the prevention of the malignant aphthæ, Dr Arnemann adviſes, that, as ſoon as infants are received into the hoſpitals fitted for their reception, the impure colluvies be immediately evacuated. They ſhould be furniſhed, if poſſible,

poſſible, with the milk of a woman newly delivered. If it be neceſſary to rear infants entirely upon the milk of other animals, he prefers the milk of aſſes, and, next to that, of mares. As far as other aliment is neceſſary, he prefers bread meat, to gruels immediately formed from farina; and he directs, that the greateſt attention ſhould be beſtowed in the choice of good bread. He condemns, in the ſtrongeſt terms, the practice of ſome nurſes, of introducing the aliment into their own mouths, with the view of heating it, before they give it to the infant. In addition to theſe particulars, the greateſt attention is to be beſtowed on cleanlineſs. Infants ſhould be frequently waſhed, their mouths, in particular, ſeveral times in the day; and great care ſhould be beſtowed, that both their bed and body linen ſhould be clean and dry.

Free acceſs ſhould be given for the admiſſion of air into the apartments in which they ſleep; and on this account Dr Arnemann highly recommends the uſe of ventilators. The windows ſhould alſo, he thinks, be opened daily, and impure effluvia corrected by aromatic fumigations, or by burning gunpowder in the apartments,

partments, the uſe of which he repreſents as highly efficacious.

In the cure of the malignant aphthæ, when the diſeaſe has already taken place in any infant, he directs that it ſhould be immediately ſeparated from the others; placed in a dry and airy bed-chamber; that its linens ſhould be immediately changed; and if there be any reaſon to ſuſpect a fault in the nurſe, ſhe ſhould give place immediately to another, or the infant be ſupported upon the milk of domeſtic animals, or on other food.

Regard muſt alſo be paid to the evacuation of the alimentary canal; and with this view he recommends, as a very efficacious practice, the giving magneſia and rhubarb to the nurſe. He adviſes, that the ſyrup of ſuccory with rhubarb be given to the infant itſelf; or if it be ſomewhat advanced, the tincture of rhubarb with magneſia, in ſuch quantities as gently to move the belly. The nurſe muſt be copiouſly ſupplied with mild, bland diluents, ſhunning all acrid and ſalt food. Beſides this, glyſters are never to be neglected, which he conſiders as preferable to all other remedies in the treatment of malignant aphthæ. Theſe, he thinks,

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ſhould in general be prepared of mucilaginous decoctions alone; but if the belly be very bound, he thinks they may be ſharpened by ſome purgative, ſuch as tincture of rhubarb.

That the cruſts of the aphthæ may ſooner fall off, he adviſes the application of ſome detergent liniment, particularly of thoſe which contain the vitriolic acid, or borax. When the aphthæ have a livid or black appearance, threatening a putreſcent ſtate, he adviſes that recourſe ſhould be had to a decoction of bark, and to an infuſion of rue, ſerpentaria, or ſage, with borax or with alum; and he likewiſe directs, that beſides being taken by the mouth, theſe ſhould be employed under the form of injection. He thinks alſo, that benefit may be derived from the uſe of fixed air.

When particular bad ſymptoms come on, as ſingultus, ſalivation, or the like, theſe are to be allayed in the ſame manner as in other caſes. Some have recommended the uſe of bliſters and of cordials; but Dr Arnemann ſtrongly condemns both the one and the other; and thinks, that the only cordials which are admiſſible, are thoſe which at the ſame time remove the cauſe of the diſeaſe.

After

After theſe obſervations on the malignant aphthæ, Dr Arnemann adds a few remarks reſpecting what he calls venereal and ſcorbutic aphthæ. In the firſt of theſe caſes, he obſerves, that it is often difficult to diſtinguiſh the cauſe of the diſeaſe. They are chiefly, he thinks, to be diſtinguiſhed, by the ſpreading of the ulcers, the fetor, and the affection of the bones. When the cauſe is manifeſt, he directs fumigation with mercury, or waſhing with a ſolution of corroſive ſublimate. When a ſcorbutic diatheſis appears, as indicated by ſtomaccace, fetor of the mouth, a livid colour, and other marks, he recommends the conjunction of antiſcorbutic medicines with evacuants.

Dr Arnemann concludes this treatiſe with ſome obſervations on the aphthæ of adults; the aphtha febrilis of Sauvages and Sagar; the febris aphthoſa of Selle. He tells us, that aphthæ in adults chiefly follow continued, putrid, or intermittent fevers, eſpecially thoſe autumnal fevers which begin with diarrhœa and dyſentery; and he conſiders them as being particularly the conſequence of warm regimen, or of the precipitate uſe of aſtringents, before the

the fomes of the diſeaſe has been properly diſcharged by cathartics. Theſe begin in the ſame manner as the aphthæ of infants, excepting that the preceding ſymptoms are more violent and numerous; which, indeed, infants cannot expreſs in words. They are affected with nauſea, perpetual anxiety, great pain and weight about the præcordia, dulneſs of the ſenſes, and ſtupor. The eruption ſeems to riſe up the courſe of the œſophagus: at length, they fill not only the mouth, but alſo the aſpera arteria and noſtrils.

The prognoſis is chiefly to be drawn from the nature of the diſeaſe which they follow, and the ſtrength of the patient. But it is always to be conſidered as unfavourable, when, upon their appearance, there is a recurrence of fever, the pulſe becomes ſmall, and the appetite fails.

Theſe he conſiders as likewiſe ariſing from crudities and impurities in the primæ viæ, and as therefore requiring, in the cure, emetics and cathartics. Regard, however, muſt be had to the tendency of the diſeaſe which they have ſucceeded; and where putrid fevers have preceded, cathartics muſt be cautiouſly exhibited, or

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at leaſt antiſeptics conjoined with them, ſuch as Peruvian bark, or the like. But beſides this, he adviſes that recourſe be alſo had to the internal and external remedies which have already been mentioned, and which it is here needleſs to repeat. In theſe caſes, after the aphthæ have fallen off, acrid aliments and medicines are to be cautiouſly avoided, leſt a fatal inflammation of the ſtomach or inteſtines ſhould be produced. Care muſt alſo be taken, that the veſſels be not conſtricted by cold air, or by cold drink; for of this, he tells us, a dangerous angina is often the conſequence.

XVI.

Hydrophobiæ inſititiæ hiſtoria. Auctore Bernard. Gotſche Baumgarten, *M. D. Haunienſe.* 8vo, Hauniæ.

WHETHER Hydrophobia was or was not known to Homer and Hippocrates, Dr Baumgarten thinks is a matter of little importance in practice. But he is inclined to adopt the opinion of thoſe who contend that it has exiſted in all ages. He defines it to be a permanent, inſuperable averſion to water, or any other fluid to be drunk, not depending on any known difficulty of deglutition. From this definition, a diſtinction is afforded between the preſent affection, and that averſion to fluids which takes place in angina, in nauſea, in caſes of deſpair, and other ſimilar affections. That the Hydrophobia which takes place in rabies is eſſentially different, from the averſion to fluids in the diſeaſes mentioned, is certainly true.

true. But at the ſame time, the definition here given is perhaps exceptionable; for we apprehend, it cannot with propriety be ſaid, that it does not depend on a known difficulty of ſwallowing. On the contrary, there is reaſon to believe, that the hydrophobia is entirely the conſequence of aſſociation of ideas, from the recollection of what the patient has formerly ſuffered, in attempts to ſwallow liquids.

Hydrophobia has by ſome been divided into different ſpecies, according to the animal affected; but, in the preſent work, the author propoſes to treat only of the human hydrophobia. Even this, he obſerves, has a conſiderable number of varieties, and differs with reſpect to its object: for the patient has ſometimes only an averſion to ſwallowing or taſting fluids; at other times, the averſion extends to the touch, the ſight, or the noiſe of fluids; or, in ſhort, to any thing which can recal the idea of them to the mind. It differs with reſpect to the ſenſation excited, as being either a mere ſimple averſion, or as giving riſe to horrors, tremors, anxiety, pains, convulſions, faintings, and the like. It differs with reſpect to various aſſociations; as, being ſometimes without any

inclination for liquids; ſometimes with intolerable thirſt; ſometimes with, ſometimes without, concomitant fever, rabies, or any other diſeaſe. It differs according to its tenor, being in ſome caſes conſtant, in others admitting of remiſſions and exacerbations: And, finally, it differs according to its origin, being in ſome caſes ſpontaneous, in others ariſing from a poiſon communicated as it were by inoculation. It is of this laſt only, and indeed of that communicated by an hydrophobous animal, that Dr Baumgarten means more eſpecially to treat.

The inoculated human hydrophobia, excluſive of its known cauſe, a probable opportunity, viz. for the introduction of virus into the body, has now no other characteriſtic marks excepting the averſion to drink, dyſpnœa, anxiety, and convulſions, accompanied with pains in the place firſt affected, and in the ſtomach. In ſome, indeed, there occur febrile commotions, thirſt, delirium, priapiſm, and other ſymptoms; but theſe are leſs conſtant. On the other hand, there are examples, where, with the aſſemblage of the other ſymptoms mentioned, evidently ariſing from hydrophobous

bous poiſon, there has exiſted little or no dread of water. It is, however, our author imagines, probable, that, in theſe caſes, the diſeaſe had either terminated fatally, or yielded to art, before arriving at what might be called its higheſt degree.

Authors, Dr Baumgarten obſerves, have uſually divided the courſe of hydrophobia into three ſtages; but he thinks it may more properly be divided into two; the firſt beginning with the introduction or application of the poiſon, the ſecond with the manifeſt averſion to water: the one, however, may, he thinks, be properly viewed as the prelude to the diſeaſe, the other as the diſeaſe itſelf. In ſome caſes, between the introduction of the matter and the firſt ſymptoms of diſeaſe, almoſt no time elapſes; in others, a very remarkable interval. Symptoms are moſt commonly obſerved to occur between the twentieth and fortieth day. But there are many caſes on record, and a great number of them are here quoted, in ſome of which it appeared much ſooner, and in others much later. Many cauſes, our author obſerves, have been aſſigned for theſe varieties; ſuch as, the ſenſibility

of the place bit; the irritability of the habit; the ferocity of the animal biting; the heat of the climate and the like: but nothing certain, he contends, has yet been eſtabliſhed on this ſubject.

When the hydrophobic virus becomes active in the body, the ſymptoms induced may be referred to three heads; thoſe, viz. which take place in the part affected; the affections of other parts of the body; and the affections of the mind of the patient. As to the ſymptoms at the affected part, a variety of ridiculous accounts have been given, ſuch as the opening of the wound: but Dr Baumgarten obſerves, that the only certain affection is, ſome peculiar feeling in the affected part and its neighbourhood. This chiefly appears under the form of pain, of the prurient, lancinating, preſſive, or ardent kind. This pain returns at intervals, and is not confined to the affected part, but ſhoots from thence to different parts of the body, particularly to the trunk and fauces, giving a ſenſe of ſtrangulation.

Dr Baumgarten next gives a very minute and diſtinct account, both of the corporeal and mental affections which take place in the progreſs of the diſeaſe: but as his account is entirely

tirely extracted from other authors, and differs very little from other hiſtories, we ſhall not here offer any analyſis of it. We may only mention, that among other hydrophobic ſymptoms from fluids, he takes particular notice of a circumſtance omitted by moſt authors, the dreadful commotions excited by injections, where the patient neither ſees any thing of any fluid, nor can even be ſuppoſed to be much affected by its touch.

With regard to the prognoſis, he obſerves, that, before the dread of water begins, a cure is not only poſſible, but even not unfrequent; but, when this ſymptom becomes manifeſt, the diſeaſe, he thinks, may juſtly be conſidered as deſperate; for he conſiders all thoſe caſes, where a cure has been alleged to have taken place, as being inſtances of hydrophobia, proceeding from ſome other cauſe than the bite of a rabid animal.

The prophylaxis, he obſerves, is performed with greater eaſe and ſucceſs. But, among the different practices recommended for this purpoſe, thoſe, he thinks, deſerve the greateſt attention which operate chiefly by deſtroying or removing the virus. For this purpoſe, he

adviſes the cutting out the part completely, or burning it deeply with a hot iron, and immediately cutting out the eſchar; for he conſiders mere dilatation, ſcarification, lotion, cupping, and the like, as being much more precarious. In every caſe, he recommends that the wound be kept in a ſtate of ſuppuration for the ſpace of a month at leaſt, and that all the neighbouring parts be rubbed with mercurial ointment.

Bathing, on which the ancients placed ſo great confidence, modern experience has, he obſerves, proved to be uſeleſs; and therefore, to perſiſt in it would be cruel. Mercurial remedies, particularly when introduced under the form of friction, have, he obſerves, obtained the higheſt reputation; but, upon the authority of Drs Munch and Sibbern, he alſo mentions the belladonna as a valuable remedy. He conſiders what has been ſaid in ſupport of the efficacy of the Tonquin powder, canthariides, ſcarabæi, opiates, lichen teneſtris, anagallis, and various others, as reſted upon a much more uncertain foundation. He obſerves, there is no internal remedy whatever which has not repeatedly failed; but, upon the whole,

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he thinks the belladonna preferable to any with which we are yet acquainted.

When hydrophobia terminates fatally, death occurs in different ways. Some die during the exacerbation, others in the remiſſion. Death is commonly preceded by a weak pulſe, great dyſpnœa, cold ſweats, and involuntary diſcharge of urine. A favourable termination is commonly attended with long continued ſleep, or profuſe ſweat, and ſometimes with the urine depoſiting a copious ſediment.

The dead bodies of patients cut off by hydrophobia, in general run into putrefaction in a very ſhort time; and the diſſection of them has given little certain information. On this ſubject, he contents himſelf with referring the inquiſitive reader to the works of Morgagni.

He next proceeds to treat of the cauſes of this diſeaſe: And here, he obſerves, four different kinds are to be conſidered; the prediſponent cauſes; the prior occaſional or communicating cauſes; the poſterior occaſional or exciting cauſes, and the proximate cauſe. That ſome prediſpoſition is neceſſary, he thinks manifeſtly appears, from numbers being bit without

without any infection following; and that, too, where no antidote or precaution of any kind has been employed; while, at the ſame time, there could be no doubt that the infectious matter was fully applied. But while prediſpoſition is thus demonſtrated, we are, he obſerves, ſtill ignorant in what it conſiſts.—He thinks it however probable, that a latent virus, which, without ſome new contagion, would never produce any bad effect, may be conſidered as the prediſpoſition to this affection.

The communicating cauſe, he obſerves, conſiſts alone in infection; but there are various animals by which it has been alleged to be communicated. Thus, there are inſtances upon record, in which it has been ſaid to ariſe from the bite of a cock, a ſwan, or a gooſe, when highly enraged. But as theſe animals were not themſelves hydrophobic, Dr Baumgarten doubts how far the diſeaſe induced could be conſidered as real hydrophobia. The human ſpecies are moſt commonly infected by dogs, wolves, or cats; but they may be infected alſo by men themſelves; and it has been alleged, that this may be done either by biting, by kiſſing, or even by the application

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of the ſaliva to the ſkin. But he admits, that the teſtimonies in ſupport of ſome of theſe laſt cauſes are but few and ſuſpicious only; and he thinks it probable, that an hydrophobic man can hurt others only by the bite.

It has been alleged by ſome, that the fleſh, the milk, the blood, the halitus, and the diſſection of hydrophobic animals, had produced the diſeaſe. But there are, our author obſerves, many well-atteſted caſes proving the contrary; or, at leaſt, he contends, that there are inſtances where the fleſh and milk have been taken with perfect impunity; and many have diſſected the bodies, both of men and other rabid animals, without the ſmalleſt injury. He thinks it probable, that the ſaliva in dogs and foxes is the moſt common, if not the only vehicle of the hydrophobic poiſon. But this he thinks ſomewhat more doubtful in the caſe of cats, who have been ſaid to communicate the diſeaſe by ſcratching. He conſiders it as a ſtill more doubtful point, whether there be any poſſibility of infection without ſome wound of the ſkin; but he thinks it not improbable, that ſuch infection may take place at the mouth and noſe, where the ſkin is very tender.

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As poſterior or intermediate occaſional cauſes, which render the virus active in the body, when it lodges there in a condition in which it is productive of no bad effect, and might never, perhaps, be productive of any, he enumerates terror, and anger.

With regard to the proximate cauſe of inoculated hydrophobia, Dr Baumgarten obſerves, that the limits of his work will not allow him to ſtate the ſentiments of different writers. He therefore contents himſelf with merely offering his own. He conſiders the diſeaſe as being what he calls a virulent convulſive affection, while he looks upon ſpontaneous hydrophobia as being merely convulſive without virulence. The virulent nature of the diſeaſe is proved, he thinks, not only by its origin, but alſo by the method of cure; for he obſerves, that we ſcarce read of any caſes ſucceſsfully cured, either in the beginning or progreſs of the diſeaſe, without ſweat, or ſome other obvious evacuation.

How far any of our readers will be diſpoſed to adopt all Dr Baumgarten's reaſoning, we will not pretend to ſay; but it will at leaſt be allowed, that the ſubject of which he treats, is one meriting the utmoſt attention, and with regard

regard to which we are ſtill much in the dark. It is indeed true, that many ingenious treatiſes have lately appeared upon the ſubject, particularly one by Dr Robert Hamilton of Ipſwich; and the learned Dr Percival of Mancheſter has communicated to many of his friends hints towards the inveſtigation of the nature, cauſe, and cure of Rabies Canina, which will probably be publiſhed in the Mancheſter Memoirs. But, notwithſtanding all that has been done, even the prevention is by no means on a footing ſo certain as could be wiſhed; and with regard to the nature of the diſeaſe, we are ſtill, in many particulars, almoſt totally in the dark.

XVII.

XVII.

Abhandlung ueber die veneriſche Krankheit, &c. i. e. *A Treatiſe on the Venereal Diſeaſe. By* Chr. Girtanner, *M. D. Member of the Royal Society of Gottingen. In three volumes.* 8vo; Gottingen *.

THE firſt volume of this valuable treatiſe upon the venereal diſeaſe is divided into five books. In the firſt book is contained the hiſtory of the diſeaſe. In this part of the work, Dr Girtanner beſtows great pains in giving a full refutation of the ſpecious and ingenious arguments produced by Dr Sanchez and Dr Henſler, in order to prove the antiquity of lues venerea. He ſhews, with great erudition,

* For this analyſis of Dr Girtanner's work, we are indebted to an ingenious friend, Dr Jachmann of Koningſberg, from whom we hope to obtain future valuable communications.

erudition, that all their arguments are founded upon falſe facts, and that the conſequences drawn from them muſt, of courſe, be erroneous.

In the following chapter, the author demonſtrates, by the moſt forcible arguments, and the teſtimonies of all the cotemporary writers, particularly the Spaniſh ones, that the venereal diſeaſe was unknown in Europe, before the 4th of March of the year 1493. Concerning the origin of lues in America, Dr Girtanner propoſes a new and an ingenious hypotheſis. Americus Veſputius, the famous navigator who gave his name to the new diſcovered world, relates, that the women in America uſed to apply to the genitals of the men certain poiſonous inſects, to ſtimulate them. This ſingular cuſtom, our author ſuppoſes, may have produced a ſpecific inflammation, and a pus of a particular nature; which, depoſited in the vagina of the women, may have there cauſed the ſame ſpecific inflammation, and thus propagated the diſeaſe. In the ſame ſection, we find ſome new and curious obſervations on the nature of the venereal poiſon, and on the venereal infection.

In

In the ſecond book, Dr Girtanner treats of local ſymptoms. Internal remedies in gonorrhœa are, he affirms, of no uſe; and what he conſiders as the ſafeſt and beſt method of cure, is the injection into the urethra of a ſolution of opium. The ſame injection, with the addition of lime-water, will, he tells us, cure venereal gonorrhœa in women. Swelled teſticles, acute venereal iſchuria, and venereal inflammation of the eyes, are, in Dr Girtanner's opinion, entirely ſympathetic diſorders, produced by a high degree of inflammation in the urethra. He conſiders the venereal poiſon as in theſe caſes never leaving the lacunæ of Morgagni, where it was firſt depoſited. Againſt theſe troubleſome ſymptoms, he propoſes a new method of cure, confirmed by his own experience in practice.

In the chapters in which he treats of gleets, of ſtrictures, of iſchuria and of fiſtulæ in the perinæum, he illuſtrates the nature of theſe affections by ſeveral curious caſes, which have occurred in his own practice. Venereal chancres he conſiders as a local ſymptom only; and he relates ſeveral caſes, to prove that abſorption does not take place, till a very conſiderable

able time after the firſt appearance of chancres. Hence he concludes, that chancres might always be cured by being treated locally merely, without any mercury being taken internally. This practice he the rather recommends, becauſe he thinks it proved, that mercury given internally cannot be of any uſe, before ſymptoms of abſorption appear. Mercury does not, he thinks, act upon the venereal virus till it has undergone a certain change in the body, with which we are not yet acquainted.

The practice which Dr Girtanner recommends for the cure of chancres, conſiſts in applying a ſolution of cauſtic alkali to the chancre, ſo as to produce inflammation and ſuppuration; and this, he contends, will prove effectual without giving any internal medicines.

The chapters on phymoſis, paraphymoſis, venereal warts and excreſcences, contain ſeveral new and curious obſervations. The common practice of rubbing mercurial ointment on the inſide of the thighs, in venereal buboes, being attended with diſagreeable conſequences, and the effect of theſe frictions being nothing farther than that of acting as a ſtimulus to the lymphatics, and increaſing their abſorbent

power, Dr Girtanner recommends a new method of diſcuſſing buboes, which he affirms he has employed with the greateſt ſucceſs, in his own practice. It conſiſts in making uſe of the volatile liniment inſtead of mercurial ointment. This alſo he directs to be rubbed on the inſide of the thighs, and other neighbouring parts. He contends, that it never fails of diſcuſſing the ſwelling in a much ſhorter time than the mercurial ointment.

In the third book, Dr Girtanner gives a complete liſt of all the remedies recommended as preventives, from the firſt introduction of the venereal diſeaſe till the preſent time; and he ſhews, that of all the remedies recommended for that purpoſe, there is not one which will infallibly prevent the venereal infection.

The fourth book treats of confirmed lues, or ſyphilis. Here Dr Girtanner examines the doctrine of the morbi venerei larvatæ, and proves, by many forcible arguments, that theſe have no exiſtence.

In the following chapters, the author treats of mercury, of its action on the human body, of ſalivation, of the practical rules to be obſerved in the adminiſtration of mercury, of the different methods in which it has been applied

to the human body, of the different mercurial preparations, and of quack medicines. The method of exhibiting mercury, which Dr Girtanner prefers, is that of giving it under the form of calomel, or of the pulvis mercurii cinereus, adding a grain or two of opium, as ſoon as ſymptoms of increaſed irritability appear in the ſyſtem.

Vegetable remedies, Dr Girtanner thinks, have been too much neglected in the cure of ſyphilis. He gives an account of twenty-three vegetables recommended by different authors in the venereal diſeaſe. The laſt of theſe is the * aſtragalus exſcapus, a new remedy, lately ſtrongly recommended at Vienna. In addition to what had formerly been publiſhed reſpecting the aſtragalus, its efficacy is proved by ten new caſes, related by Dr Crichton in a letter to Dr Girtanner.

The fifth book treats of the venereal diſeaſe in children, and contains ſome new and curious obſervations. In the ſecond and third volumes, the author gives a review of all the

* Our readers will find an account of this remedy in the analyſis we gave of Dr Quarin's Animadverſiones Practicæ, vol. II. decade II. page 176.

books publiſhed from the introduction of the diſeaſe into Europe in 1493, to the preſent time, with extracts of what is principally worth attention. The number of books reviewed is 1802. To the work is added an appendix, which contains extracts from Spaniſh authors of the ſixteenth century, as additional proofs of the American origin of the venereal diſeaſe. Upon the whole, we may venture to ſay, that from this work, the long continued diſpute on the antiquity of lues may be conſidered as finally ſettled, and its American origin ſo fully eſtabliſhed as to exclude the poſſibility of doubt.

SECT.

SECT. II.

Medical Obſervations.

I.

Hiſtory of a Caſe of Inſanity, cured by the uſe of the Digitalis Purpurea. Communicated to Dr Duncan, *in a Letter from Dr* Joſeph Maſon Cox, *at Fiſhponds, near Briſtol.*

DR WITHERING, in the year 1785, having related ſeveral caſes in which the digitalis purpurea ſucceeded in the cure of inſanity, and your Commentaries for 1786 containing two more of the ſame kind, I was induced to try it in one that occurred to me lately.

Having obſerved, from the reports of ſeveral practitioners who had employed it, that the foxglove poſſeſſed the peculiar property of reducing the pulſe, and of occaſioning very great nauſea, I had recourſe to it in the caſe I am now to relate, principally as a debilitating power, hoping by its exhibition to bring on a remiſſion of a moſt furious maniacal paroxyſm. I was pleaſingly ſurpriſed to find that the event far exceeded my moſt ſanguine expectations; and that by means of this powerful vegetable, I was enabled to reſtore a very valuable member of ſociety to reaſon, and to himſelf. And as the hint was ſuggeſted through the channel of your excellent annual publication, I have taken the liberty of troubling you with the particulars of the caſe, hoping that you may think it worth communicating to the world; as ſome one of more abilities may improve upon the practice, and the reſult may ultimately tend to the benefit of mankind.

Though the medical world cannot but acknowledge their gratitude to the labour and induſtry of the moſt ſkilful anatomiſts of different ages, for their diſſections and inveſtigations

gations of ſubjects who have laboured under different ſpecies of inſanity, and for the accurate and minute hiſtories handed down to us; yet it muſt be ſincerely regreted, that the reſult has been by no means adequate to the labour. Our knowledge of the human mind, and of the connection between it and the body, muſt ever be very limited, while we know ſo little with reſpect to the deſtination and offices of the ſeveral parts of ſuch a complicated ſtructure as the brain. Haller aſſerts, that in ſome caſes of infanity no preternatural appearance was obſerved; and where it was diſcovered, we are ſo far from being able to perceive an uniform connection between any one diſorder of the mind, and a morbid appearance of the contents of the ſcull, that the very ſame ſtates are exhibited after the moſt oppoſite diſorders, as phrenzy and idiotiſm. But although, as Dr Arnold juſtly obſerves, much uncertainty will ever attend our reſearches into the ſeveral ſpecific ſtates of the brain reſpectively productive of the ſeveral ſorts of inſanity, yet, where we can ſuſpect the cauſe, though we may be ignorant of its mode of action in producing the diſeaſe,

we are authoriſed, on the moſt rational principles, to place the greateſt hopes of ſucceſs in the adminiſtration of thoſe remedies which are particularly adapted to obviate its effects.

It is upon a principle of this kind, that we may perhaps account for the influence of the digitalis in effecting the ſeveral cures imputed to it, as well as that I am about to relate. Since a ſuperabundance of aqueous or ſerous fluid, extravaſated in the different parts of the brain, as in the ventricles, between the dura and pia mater, &c. have been ſuſpected to be the cauſes of inſanity in many inſtances; ſince we ſee the effects of water in the brain, in caſes of hydrocephalus; and ſince we know that the foxglove has a particular power of evacuating extravaſated fluids, we may from thence be led to explain its efficacy in thoſe caſes, and in that which I am now to relate.

Mr P. M., aged 40, rather of a corpulent habit of body, naturally of a gay and cheerful diſpoſition, had for ſeveral years enjoyed an uninterrupted continuance of health, excepting an occaſional pain in the head, which he termed a pulſing pain, which however continued

tinued only for a few hours, and left him in perfect health. Having by indefatigable induſtry in an active line of buſineſs accumulated an independency, he was induced to retire, to enjoy the fruits of his labours in eaſe and affluence. But forgetting that the means by which he had amaſſed his fortune, were the ſource from whence he derived health and ſpirits, he quickly became liſtleſs and inactive, was dejected, peeviſh, and whimſical, and at length his ideas were confuſed, and his judgment deluded. He complained of no bodily pain, excepting his uſual headach, and a ſtiffneſs of his lower extremities, which in the evening appeared rather ſwoln and anaſarcous. He was habitually coſtive, and often paſſed ſeveral days without a ſtool. His urine was diminiſhed in quantity, and at the ſame time limpid and thin, depoſiting no ſediment. He was very ſubject to acid eructations and borborygmi; his appetite was impaired, his thirſt increaſed, he ſlept but little. His ſleep was without refreſhment, and accompanied with terrifying dreams.

Theſe were his principal original ſymptoms; and they gradually increaſed, although the beſt

beſt medical aſſiſtance was procured with a view to their removal. At length, from a ſettled melancholy he became moſt furiouſly maniacal; and it was judged proper to remove him to ſome place of confinement. He was accordingly committed to my care, on the 22d of June laſt: But, previous to that, he had undergone pretty ſevere medical diſcipline. He had been bliſtered on the head, the back, and the calfs of the legs; he had been repeatedly blooded, purged, and vomited, and had taken draughts, with gum-ammoniac, ſagapenum, tinctura melampodii, ſteel, &c.

I found him very much emaciated, his pulſe feeble, and beating to eighty and upwards in the minute; his countenance ſallow, the eyes red, ſunk, and looking fierce and ſtaring. He had not had a ſtool for a week; and the urine continued in ſmall quantity, and pale, notwithſtanding his debilitated ſtate. His ravings and exertions required conſtant confinement and attendance. Although in general he talked in the moſt incoherent manner, running from one ſubject to another without the leaſt order or connection, yet he would reaſon on ſome topics with the utmoſt acuteneſs for a certain time,

time, but quickly relapſe again into his former ravings.

I began my curative attempts by adminiſtering a laxative emollient clyſter: but this not ſucceeding, I had recourſe to one more ſtimulating, which brought off ſeveral pounds of very fœtid fœces. Thinking, from his preſent debilitated and emaciated ſtate, that the antiphlogiſtic plan had been too rigidly adhered to, I imagined it would be moſt prudent to ſuſpend the uſe of medicines for a few days. But the ſymptoms ſuffered no kind of remiſſion: he paſſed day after day in curſing and raving, and night after night without ſleep. I then ordered an emetic ſolution to be prepared, with twelve grains of emetic tartar, one grain to be exhibited every half hour till it operated. But no obvious effect was produced, till ten grains were taken, when full vomiting took place. This brought off much viſcid phlegm, and bile; but no remiſſion of ſymptoms was produced, nor was there the leaſt languor after the exertion attending the operation of the emetic. His pulſe continued about eighty, though feeble. As he had not enjoyed an hour's ſleep during the whole

whole time he had been under my care, I had recourſe to repeated doſes of opium, under the form of paregoric elixir in camphorated julep, with the pediluvium continued for an hour each night, and a laxative draught every morning. Having continued this for a week without the leaſt obvious effect, I almoſt deſpaired of relieving him, from his ſyſtem being ſo exceedingly inſenſible to the action of medicines; which however is no uncommon caſe with maniacs. But obſerving the diminiſhed quantity of urine, and a degree of tenſion in the left hypochondrium, I began to ſuſpect a ſerous effuſion, and accordingly had recourſe to the common diuretics, cream of tartar, elaterium, ſquills, mercury, &c.; but all of theſe failed in producing the deſired effect. The latter, indeed, run off by the bowels, till corrected by opium, which I exhibited once to the amount of two drams in ſix hours, but without the leaſt ſedative effect.

At this time, viewing the caſe as a very helpleſs one, the idea occurred to me of trying the digitalis, which is repreſented as producing ſuch remarkable effects in diminiſhing the pulſe. I accordingly prepared a decoction, by

by boiling an ounce of the dried leaves of the digitalis in a pound and a half of water, till it was reduced to a pound, and directed three ſpoonfuls to be taken every third hour. It produced no ſeeming effect, till after the third doſe. An evident nauſea was then produced, ſucceeded by full vomiting of viſcid phlegm, and green crude bile. The flow of urine was increaſed, and the pulſe reduced nearly to the natural ſtandard. The nauſea continued at times the two following days, though no more of the decoction was given. But I was again tempted to repeat the doſe, from ſo favourable a beginning. The effect was nearly the ſame as before, excepting that the flow of urine was diminiſhed, and ſeveral looſe ſtools were produced. I therefore ordered another doſe of opium, which was ſucceeded by five hours ſleep, the firſt that had been procured during the laſt fortnight. I found my patient in the morning much more compoſed, though he complained much of nauſea: he was evidently, upon the whole, much better. I therefore omitted the medicine wholly for three days: but on the fourth all the former ſymptoms returning, I had again recourſe to the

the decoction. It now produced no nauſea, but the flow of urine was much increaſed. I therefore continued ſmall doſes of the decoction, with an opiate at night, during nine days. At the end of that time, my patient ſeemed much better, both in body and mind. He ſpoke with propriety on a variety of ſubjects, and on his late complaints with philoſophic coolneſs, though he complained that he had but an imperfect recollection of them. His appetite mended, and the various functions became natural. I then left off the medicine gradually, each day adding to his ſtrength, appearance, and recovery. He is now perfectly reſtored, and has continued for the laſt ſix weeks as well as ever he was in his life, without having had any return of his uſual headach.

II.

II.

Hiſtories of two Caſes, in which, after Suppuration at the Perinæum, the Urine was diſcharged at preternatural Openings. By Dr Mathias Gahagan, *Phyſician in Grenada.*

D. S. (a taylor) for ſeveral years had been attacked occaſionally with a ſuppreſſion of urine, and ſymptoms of inflammation at the neck of the bladder, which had their origin in a neglected gonnorrhœa. The returns, although not ſo frequent at firſt, induced him, in the year 1785, to go to Europe, where he got much better.

On his return in 1786, he addicted himſelf as formerly to drinking ſpiritous liquors, which, with other irregularities, brought back his complaint with conſiderable violence. After repeated attacks, it aſſumed the form of an irregular intermittent, attended with ſuppreſſion of urine, ending in copious perſpiration. The attacks were often of unequal duration, reſembling

ſembling much thoſe of the lymphatic affection prevalent at Barbadoes.

By evacuations, ſudorifics, diuretics, and the uſe of the bark, he had intervals of health; but always laboured under more or leſs affection at the neck of the bladder. Sometimes his urine came away involuntarily; at other times, a total ſuppreſſion took place. Whenever he indulged in drinking, and expoſed himſelf to cold, a paroxyſm of irregular intermittent occurred, attended with pain and tenſion at the neck of the bladder. Bleeding was practiſed occaſionally, and the warm-bath tried.

At laſt, after repeated attacks, he began to feel, in the perinæum, ſwelling, and a burning ſenſation, attended with ſhooting pain, up to the neck of the bladder.

Antiphlogiſtic and anodyne medicines were uſed, and emollient fomentations employed, but without effect. A medical friend being called in, recommended the mercurial pill, with a large proportion of opium, and the uſe of it to be puſhed to a conſiderable extent. This was done, and the topical applications were continued.

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In two or three days, the ſymptoms of inflammation increaſed greatly, and the ſwelling and tenſion threatened ſuppuration, if not gangrene. To prevent this, the topical applications were ſtrongly recommended, and aſſiduouſly applied. But ſudden eaſe, and a beginning livor, ſoon made us dread the worſt conſequences.

We immediately entered on an antiſeptic plan. The patient had been greatly weakened by the continuance of this laſt attack, and and by profuſe ſweats. We therefore ordered the bark in pretty large doſes, with a little rhubarb now and then in it, to keep his body open; and we directed antiſeptic fomentations.

Little or no urine had been diſcharged from the firſt attack; but the diſcharge by the ſkin ſeemed to make up for the want of a diſcharge from this emunctory. I had frequently tried bougies, which I had ſtrenuouſly inſiſted on; but although I had paſſed a ſmall one, I could never prevail upon my patient to ſubmit to ſo painful an operation again, alarmed at a quantity of blood that had followed, when the bougie was withdrawn.

In this trial, I felt no reſiſtance but at the neck of the bladder, nor any feel of caruncles. I was reduced, in the progreſs of the laſt affection, to the neceſſity of trying to introduce a catheter, to relieve the patient, who for ſeveral days felt excruciating pain from the diſtenſion of the bladder. Diuretic, antiphlogiſtic, and emollient medicines had alſo failed. But the attempt was in vain; I could not introduce it.

The progreſs of gangrene was rapid; and the whole of the cellular ſubſtance round the ſphincter ani began to ſlough. The livid appearance extended to the root of the penis, and even along the ſcrotum.

In this ſituation, our patient being reduced, and almoſt exhauſted, every moment threatened his diſſolution. He took, however, his bark and Port wine with uncommon reſolution: every diligence was uſed to apply, without intermiſſion, the topical application of fomentations, compoſed of camomile flowers, the ſtinking weed (which is a ſtrong ſtimulant bitter), vinegar, bark, and high wines. No aſſiduity was wanting; and the patient ſwallowed

his

his bark and wine with the avidity of one who graſps at life.

In leſs than 24 hours, the ſlough began to detach itſelf; and the ſound part had a favourable appearance. Every hour after, the appearances grew better; until, at the end of ſeveral days, the ſloughs, by the help of adheſive applications, came clearly off. Beneath was to be ſeen a beautiful view of the ſphincter ani, the origin of the acceleratores muſcles, the erectores penis, the os iſchium, and the bulb of the urethra, from whence an opening took place, apparently through the proſtate gland into the bladder; the urine iſſuing by that paſſage as ſoon as the ſlough came away.

By aſſiduouſly puſhing the internal antiſeptic plan, and unremitting attention in promoting the ſuppurative proceſs, in leſs than ſix weeks, by the kindeſt and blandeſt progreſs of ſuppuration, every thing promiſed ſucceſs.

I muſt not omit mentioning a ſingular circumſtance that happened.—Soon after the ſlough had ſeparated, and the ſuppurative proceſs had commenced, a painful tenſion and ſwelling in the left teſticle, ended in an opening at the bottom of the ſcrotum, through

which alſo the urine had paſſage. As ſuppuration and cicatrization went on, I was curious to know the ſtate of the neck of the bladder and urethra, with a view to promote the healing proceſs in the perinæum, and thereby prevent fiſtulous affections about the anus, and alſo, if poſſible, to reſtore the natural paſſage. With this intention, I tried to introduce the ſtaff or catheter cautiouſly, after a bougie had failed. No urine had from the beginning paſſed naturally. My expectations led me, perhaps unſkilfully, to expect, that if it could be reſtored, the fiſtulous communication through the teſticle might be cloſed, either naturally or artificially, by the means that are uſed in hydrocele. Diſappointed in my expectations, finding the natural paſſage ſtill obſtructed and impervious, and the cicatrix in perinæo completely formed, I was happy to find the other outlet continued open; and, except a diſcharge which is ſometimes made, guttatim, through the urethra, is the only paſſage the urine has had now for 18 months, although this man has enjoyed, in general, the beſt health.

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We have had a ſimilar caſe ſince the one already deſcribed. A ſtout negro, who had concealed a gonorrhœa until it became virulent, was attacked with ſymptoms of ſtrangury, which bleeding and the warm-bath ſoon relieved. The ſame affection recurred frequently; and at laſt he began to feel tenſion and pain in the perinæum. Bleeding, the warm-bath, and diuretics, as well as ſudorifics, failed. The region of the bladder became exceedingly tumid and painful. The catheter, which was introduced with ſome difficulty, brought off his urine, and relieved him. But the other ſymptoms went on, and baffled all our attempts. At laſt, by poultices, after fomentations had failed, it was brought to ſuppuration, and opened. The inflammation was circumſcribed more than in the other caſe, and no tendency took place to gangrene: on the contrary, the diſcharge, which was copious, was laudable pus. It ended, however, in a fiſtulous opening in perinæo, through which he ever after paſſed his urine. He

died lately cachectic, from having addicted himſelf to exceſſive drinking.

In the caſe of D. S., the uſe of opium and calomel in large doſes, was puſhed freely, and with ſome confidence, from the very reſpectable authority of Dr Hamilton of Lynn-Regis, from whom the medical world had received the moſt decided teſtimony in favour of theſe medicines. We not only had the mortification to be diſappointed, but it was almoſt certain, that they accelerated the termination by mortification. It is very true, that the commencement, progreſs, and rapidity of the ſymptoms, were marked with peculiar violence.

It was long after this caſe fell under my obſervation, that I had the ſatisfaction to peruſe the work of a very celebrated author, written expreſsly on the ſubject *. In it I found a caſe ſomewhat ſimilar, and many ingenious obſervations, which throw light on the diſorders incident to the parts of generation. But I am

* Mr John Hunter's Treatiſe on the Venereal Diſeaſe, *vide* pages 147, 148, 149.

am free to confeſs, that I never once thought, nor was the idea ſuggeſted by any medical friend, of uſing a cauſtic, when the bougie and catheter had failed, to open the natural paſſage; more particularly as it was very probable, that in the two caſes which I have mentioned, the ſtructure was of the ſpaſmodic kind at firſt, and ſeated in the neck of the bladder. The want of reſiſtance, or feel of obſtruction, as far as I was able to judge, in many trials, any where but at the entrance into the bladder, as well as the periodical attacks, and the obvious occaſional cauſes, made us form this opinion. By frequent recurrence, and increaſed irritability, all the contiguous parts became affected. In the firſt patient, the rapid progreſs and violence of inflammation about the ſphincter (and this was an active tenſion, and increaſed action of all the ſubjacent veſſels, not the conſequence of urine extravaſated, or previous ulceration) rendered it impoſſible almoſt to ſatisfy ourſelves by an examination in the rectum. In the other, the neglect of the patient himſelf, and the inattention of thoſe about him, did not ſuffer us

to be acquainted with the caſe, until purulent matter was formed.

I have ſincerely wiſhed to attempt the reſtoration of the natural paſſage in D. S., as now the obſtruction may conſiſt in a ſtricture, the conſequence of inflammation, or a thickneſs of the ſphincter, and induration of the proſtate gland; more particularly as, upon conſulting him, and examining the ſtate of the parts, I have the pleaſure to find, the obſtruction in the natural paſſage is greatly diminiſhed, and his urine frequently paſſes by the urethra with conſiderable eaſe; and as the fiſtulous opening in the ſcrotum diſcharges large quantities of pure pus, and ſeems to make progreſs downwards, towards the cicatrix in perinæo. But his dreadful alarms, and the preſent contented ſtate of his mind, together with the good ſtate of health he enjoys, are obſtacles, as well as conſiderations againſt making any farther attempt. We ſhould have been obliged to puncture, had not nature appeared to relieve him conſtantly, by copious ſweats, and had not the termination already mentioned happened ſooner than was expected.

III.

III.

The Hiſtory of a Caſe, in which ſingular Tumours from indurated and enlarged glands produced a fatal termination. By Dr Mathias Gahagan, *Phyſician in Grenada.*

A MEDICAL Gentleman, of a very robuſt conſtitution, and a ſtrong rigid fibre, aged about 35, who had, for many years, with indefatigable zeal and induſtry, performed the moſt fatiguing duties of a very extended practice, began to feel ſome ſtiffneſs and ſlight pain above the left clavicle. Small indurated ſwellings ſoon appeared in the courſe of the glandulæ concatenatæ. At firſt he took little or no notice of them, attributing them to the conſtant uſe of the left, or bridle-hand, in riding. They increaſed gradually, until they became prominent, particularly above the clavicle, and felt ſoft under the finger, extending a little above the clavicle, and along its courſe

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to the ſternum; one of them preſſing ſenſibly on the trachea. Above them the glands were leſs enlarged, but indurated. After they had continued a very conſiderable time without alarming him, ſo as to induce him to try, with any ſerious attention, means for preventing their progreſs, (a few deobſtruent medicines, and ſome external applications, which ſeemed to do more harm than good, excepted), he was ſeized in the morning with tickling cough and nauſea, which ſoon went off. They recurred again for ſeveral mornings at the ſame hour, and became more troubleſome; but generally went off in the ſpace of an hour, or an hour and a half. The periodical return of the attack, and the affection of the ſtomach, induced him to try gentle evacuation, and the uſe of Peruvian bark, attributing the above ſymptoms to an accumulation of bile in the primæ viæ. He continued the bark ſeveral days, without any effect. The ſymptoms increaſed, the nauſea becoming more troubleſome, attended with vertigo, and tendency to deliquium animi, which was to be prevented only by a recumbent poſture. The paroxyſm went off with great nauſea, ſickneſs, and ſenſe of anxiety and weight

about

about the præcordia. The reſt of the day he was free from every ſymptom, except languor and loſs of appetite, which diminiſhed daily. In this way he paſſed a conſiderable time, without attending to the tumours in his neck; conceiving, that the torpid ſtate of the alimentary canal, and the increaſe of bile, might account for the ſymptoms.

His medical friends, among whom were his partner and his brother, began to be alarmed, leſt the glandular indurations and ſwellings, by preſſing on the large veſſels of the neck, as they continued to increaſe conſiderably, ſhould occaſion the ſymptoms, and be the foundation of a fatal affection. With a view to prevent this, they earneſtly recommended the uſe of deobſtruents, directing gently the patient's attention to what they conceived might be the cauſe of the other ſymptoms, without alarming him. But his own opinion being ſtrengthened by a frequent diſcharge of bile by vomiting, he did not puſh this plan as far as it was wiſhed. He had recourſe to evacuation, and change of air.

The ſymptoms continued more frequent, and more urgent; and digeſtion became much interrupted,

interrupted, by the frequent recurrence of nauſea and vomiting, as well as by the obſtinate coſtiveneſs, which continued to increaſe, notwithſtanding the conſtant uſe of laxative, and even purgative medicines.

He was ſenſible often of a weighty obſtruction in the region of the colon; which he compared to the effect of a bar acroſs the abdomen, affecting even reſpiration, and cauſing frequent ſighing.

Growing daily worſe, the ſymptoms becoming more alarming, more frequent, and more violent, he tried ſea-air, but without effect. The conſtant and exceſſive vomiting, and conſequent debility, obliged him to give up the trial after a few days, and return to his friends in town, after three weeks abſence, during which he became greatly emaciated, and underwent excruciating torture, by the frequent attacks of the ſymptoms already deſcribed; which obliged him often, when taking the air, by the advice of a worthy medical friend, at whoſe hoſpitable manſion he enjoyed all the benefits of ſkilful advice and friendly attention, to alight and repoſe himſelf, until the nauſea and vertigo ceaſed.

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On his return, a ſymptom, hitherto unattended to, did not eſcape the anxious ſolicitude of a diſtreſſed brother and a ſympathiſing friend. An evident pulſation and tumour were felt, a a little above the umbilicus, and ſomewhat more to the left ſide, obliquely.

On the moſt mature deliberation with other medical friends, it was dreaded, however improbable *a priori*, or uncommon from occurrence it might appear, that this might be an aneuriſm of the aorta deſcendens. The intolerable anxiety, pain, faintneſs, but more particularly the ſtrong pulſatory feel around, and the ſenſation, on preſſure, of a fluid ruſhing as if through a ſmall paſſage, with a fluctuating noiſe, ſtrengthened the opinion. But an enlargement of the meſenteric glands, or of the pancreas, in the ſunk ſtate of the abdomen, might be ſuppoſed to communicate pulſation very ſenſibly to the ſurface; and a glandular affection ſeemed to exiſt generally. The ſtrength of the coats of the aorta, as well as the nature of the circulation here, favoured by gravitation, ſeemed to render ſuch an opinion improbable.

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The prognoſis was equally unfavourable from either opinion. The progreſs of the diſorder was too great to admit a gleam of hope. To allay the ſymptoms of vomiting and pain, recourſe was neceſſarily had to anodynes, which procured temporary relief. Their neceſſity increaſed with their uſe. A maraſmus thus followed the interruption of digeſtion and nutrition. Gentle tonics were given, and injections thrown up, with a view to keep ſome regularity in the periſtaltic motion. Whenever he had a ſtool, which was ſeldom, it was with great ſenſe of conſtriction about the colon, and pain; and, not unfrequently, with a tendency to deliquium animi, that he paſſed it. He compared his pain often to a feeling of laceration internally.

After a moſt painful and lingering illneſs, which he bore with uncommon fortitude, he reſigned himſelf to his fate; as ſincerely, as he was deſervedly, regreted by a very reſpectable ſociety, to which he had endeared himſelf by a placid temper, a benevolent diſpoſition, amiable manners, zeal in his profeſſion, and unimpeachable integrity of character.

On

On diſſection, the integuments and muſcles, with the peritonæum, being divided, the ſtomach appeared turgid and prominent. On preſſure, a very large tumour was perceived, juſt below the ſtomach, and under the colon, which felt ſomewhat of the conſiſtence of a polypous concretion. This circumſtance, with the fluctuation felt in parts of it, and the firmneſs of the root, which ſeemed evidently connected with the large trunk of the aorta deſcendens, gave a confident opinion of aneuriſm. The ſtomach, and all the alimentary canal being carefully removed, that we might view the tumour *in ſitu*, except a portion of the colon, which adhered firmly to its upper part, it appeared to occupy, obliquely, the ſpace of about ſeven or eight inches in length and five in breadth, of an oblong figure, which leaned in its thickeſt part towards the left ſide. It had, on the right, two appendages, as large as the egg of a gooſe or turkey, which adhered by cellular membranes to the right kidney. The opinion of aneuriſm made us careful in diſſecting it, from a wiſh to preſerve it. Having tied the artery near its diviſion into the iliacs, and again three or four inches higher up than the tumour,

tumour, I diſſected the whole, from the vertebræ, with caution, and placed it in a large bowl for inſpection *. All the abdominal viſcera were ſound, except the right kidney, which was much leſſened and ſhrunk, from preſſure; and the liver, which appeared a little enlarged. On examining the diaphragm, I felt, about the height of the thoracic duct, another tumour, but more detached. The ſternum being removed, and the lungs, that we might view the heart and carotids, as well as a cluſter of tumours which were felt under the clavicle, I carefully diſſected away the heart and left carotid with the cluſter of tumours already mentioned. Great care was taken to remove all as entire as poſſible, as our opinion became more confirmed about aneuriſmal ſacs, from the feel and fluctuation in many of theſe tumours, which enveloped the large blood-veſſels from the arch of the aorta to the entrance into the head. When removed, and placed favourably in a bowl, to be ſure of their true nature, and at the ſame time not to diſfigure the appearance, we choſe one,

* The tumour could not have weighed leſs than 8 lib.

one, which from fluidity and contiguity ſeemed to be likely to remove our doubts; but on cutting into it, though a dark fluid ſpouted, we could diſcover no communication with the artery. We examined others, and were equally diſappointed. We next laid the artery open in its courſe, as well as all the large branches, but found no appearance of rupture or dilatation. We then examined minutely the ſubſtance of the tumours: Some contained fluid blood, blacker than natural; others had grumous concretions; but moſt appeared, on cutting, to be glands, and were moſt certainly the glandulæ concatenatæ. Some had the appearance of hydatides, and their contents were of a ſerous nature.

We then proceeded to examine the large tumour; and, after laying the aorta deſcendens open in its whole length, we found no mark of diſeaſe, excepting an inflammatory redneſs of the coats immediately under the tumour, which appeared to preſs intimately on this part. No rupture or dilatation could be perceived.

As we wiſhed to preſerve this tumour, we only made one or two deep inciſions, to diſ-

cover its contents. They exhibited every evidence of glandular induration; they had a marbled appearance, and in ſome parts there was abſolute pus. They were evidently ſeveral glands of the meſentery and meſocolon, enlarged to a prodigious ſize, ſo as to give the appearance of one uniform tumour. On their edges, we were able to unravel their connection, by cellular medium; but wiſhing to preſerve their look as much as poſſible, we did not examine minutely their number. Unluckily this ſubſtance was not put in ſpirits for ſome hours, and was ſpoiled.

All the other glands of the meſentery were more or leſs affected with induration.

In his lifetime, he had been very ſeldom ſubject to diſorders of any kind; although he took more exerciſe, and underwent more fatigue, than the greater part of profeſſional men, in the moſt violent heat, often expoſed to rain, and viciſſitudes of temperature. His conſtitution was naturally phlegmatic, and the circulation ſlow, his pulſe ſeldom counting more than 50 in a minute.

IV.

IV.

Caſe of a ſingular and alarming concurrence of Scorbutic Hæmorrhagies, terminating favourably. *By* Thomas Fowler, *M. D. Member of the Royal Medical and Phyſical Societies of Edinburgh, and of the Medical Society of London. Communicated in a Letter to a Friend.*

ON peruſing the thirteenth volume of the Edinburgh Medical Commentaries, I obſerved an account of a remarkable caſe of ſcurvy, which brought to my recollection a caſe, which occurred many years ago in my own practice, when I lived in the city of York; and as it was attended with certain circumſtances, not altogether unworthy of attention, I have taken the liberty of extracting it from my Medical Reports, with a view to its appearance in the ſame valuable repoſitory of Medical knowledge.

30*th April* 1771. Miſs P—— of York, aged twenty-eight, on riſing this morning, diſcovered on her arms, breaſt, lips, &c. a number of livid ſpots, about the breadth of common peaſe, which appeared like ſo many black patches. Her gums were very ſpongy, and exhibited alſo livid ſpots, from ſeveral of which the blood began to ooze.

She is of a ſcorbutic and melancholy conſtitution, has led a very ſedentary life, having been conſtantly engaged in the buſineſs of a mantua-maker for theſe eight years paſt; during which, ſhe has had an habitual dyſpnœa, and frequently complained of her gums being ſore to the touch, and diſpoſed to bleed from the ſlighteſt preſſure. Appetite good. Stools and menſes regular. Pulſe ſmall and weak, and naturally rather quick.

About five weeks ago, ſhe was ſeized with a ſlow fever; from which, however, with medicinal aſſiſtance, ſhe recovered in leſs than three weeks, and has made no complaints ſince, till this morning.

Ordered to take a powder of ſix grains of alum, and ſix of dragon's blood, with ten drops of the acid elixir of vitriol, in three table-

ſpoonfuls

ſpoonfuls of a common decoction of Peruvian bark every three hours; and to waſh her mouth frequently with a gargle, well acidulated with vitriolic acid; alſo to enter upon a cordial regimen, with the liberal uſe of red wine, lemonade, and aceſcents.

May 1ſt. The number of livid ſpots, and bleeding from the gums are increaſed. She has alſo paſſed bloody urine; had two bloody ſtools, and her breath is become very fœtid. Ordered to continue the medicines and regimen.

May 3d. The livid ſpots ſtill increaſe, both in ſize and number; and therefore, ſhe has taken the medicines, ſince yeſterday, every two, inſtead of every three hours. The bleeding from the gums, although not violent, has never ceaſed, day nor night, and is only ſomewhat abated whilſt uſing the gargle. She has had no ſtool for theſe two days, and is ſickiſh in the morning. Ordered to continue her medicines and regimen; to take a doſe of lenitive electuary immediately, and to repeat it as occaſion may require.

May 6th. The ſpots have not increaſed for theſe three days; and their livid aſpect be-

gins to leſſen. The urine is at times rather leſs bloody; but the oozing of blood from her gums having never intermitted, has much diſturbed her natural reſt. She is alſo become faint and weak from loſs of blood. Her medicines have been continued every two or three hours, and her regimen rendered more cordial. The lenitive electuary having had no effect, a common milk glyſter was given laſt night, and procured a ſtool, which was leſs bloody. Her appetite is but moderate.

Ordered to omit the ſtyptic powders, on account of coſtiveneſs; and to continue the decoction and elixir every three hours; alſo the more cordial regimen, with the gargle.

May 9th. The bleeding from the gums ſtopped yeſterday. The fœtor of the breath ſeems to be going off; and the ſpots begin to appear brown. The urine is approaching to a natural colour; but having continued coſtive, ſhe has taken, occaſionally, ſome decoction of tamarinds with ſenna; and, the day before yeſterday, had two ſtools free from blood.—Ordered the medicines and regimen to be continued.

May

May 11th. She mends apace. Stools and urine quite natural. Spots going off. Appetite improved. Ordered to take the decoction and elixir only three times a day.

May 17th. She continues mending. Some ſpots are quite gone off; and the reſt are pale, and vaniſhing. Appetite good. She gains ſtrength, and walks out every day for the benefit of the air. Ordered to continue her medicines only twice a day.

May 20th. She has no ſymptoms of her complaint remaining; and is now as well as in her beſt ſtate of health, being never wholly free from her habitual dyſpnœa.

OBSERVATIONS.

In this patient's caſe, the following cauſes ſeem to have concurred in producing the diſeaſe. Her ſcorbutic melancholy habit of body, ſedentary mode of life, aſthmatic ſtate of lungs, and, in particular, the previous ſlow fever, from which ſhe might be conſidered only as a convaleſcent.

That the hæmorrhagies were of the ſcorbutic kind, appeared obvious, from the abſence of fever, from the fœtor of the breath, ſpongineſs of the gums, numerous livid ſpots, ſpontaneous occurrence of the ſeveral diſcharges of blood, and the obſtinate continuance of thoſe which took place from the kidnies and gums, being ſeven or eight days without intermiſſion.

The treatment which has been adopted, lays no claim to merit, ſuperior to the late improvements in modern practice; and therefore, the hiſtory of the caſe is given as an inſtance of a favourable termination of an alarming concurrence of ſcorbutic hæmorrhagies; and as a proof, how far the human frame may be ſucceſsfully ſupported, by a diligent application of proper means, under a continuance of thoſe diſcharges, provided they be *neither ſudden nor violent* in their acceſſions or exacerbations.

V.

V.

Account of the good effects derived from the Eau de Luce, taken internally, againſt the Bite of the Viper. Extracted from a Letter written by Mr John Alexander, *Surgeon, in the ſervice of the Honourable Eaſt-India Company, to the late Mr* James M'Donald, *Druggiſt in Edinburgh; and dated at Dinapore, the 5th of October* 1788.

A SUBJECT which has of late very much engaged the attention of the medical practitioners here, is the ſucceſsful effects of the *eau de luce*, given internally, for the bites of ſnakes, even of the moſt poiſonous kinds to be met with in this country.

I ſuppoſe not leſs than twelve caſes happened, of perſons being bit by them at this ſtation; the fatal effects of which were prevented by the timely adminiſtration of that volatile

volatile amberated ſpirit. Oil of olives, the former remedy applied, is never ſought after where *eau de luce* can be had; and the application of it with any unfortunate ſufferer, is as much in the hands of gentlemen unacquainted with the knowledge of medicine as thoſe of the profeſſion. The doſe is a teaſpoonful, to be given mixed with a little water: And even when the locked jaw has abſolutely prevailed for ſome time, and convulſions ſeemed faſt approaching, I have heard of the recovery of patients. About a month ago, in the caſe of a Seapoy, who had been bit about ten minutes before I was called to his aſſiſtance, it was productive of the beſt effects. I gave him the ſpirit, about forty drops at three different times, which recovered him perfectly within two hours; in ſo much that he went to muſter next morning.

The only remarkable ſymptom which had time to ſpread itſelf before it was counteracted by the ſecond doſe of the *eau de luce*, was that of a conſiderable degree of palſy of the left leg and thigh, in conſequence of his having been bit

bit juſt above the ancle of the ſame ſide; and that of the pulſe falling ſo low, that for a few minutes it was almoſt imperceptible. But how happy was I! on finding it, ſoon after the *eau de luce* was exhibited, beat both ſtronger and quicker.

VI.

VI.

Account of the ſucceſsful employment of Laudanum in the Confluent Small-Pox. Communicated to Dr Duncan, *in a Letter from Mr* T. Drummond, *Surgeon at Bombay.*

SINCE I firſt engaged in practice, I have been particularly unfortunate in the treatment of confluent ſmall-pox. For ſeveral years I had an opportunity of practiſing in the general hoſpital of this place; and, both there, and in private, had frequently occaſion to treat that diſeaſe. Many of the caſes which I ſaw were under the direction of practitioners of experience; and every remedy was employed which the beſt modern authors recommend. But, by the common management, I have not in this country ſeen one inſtance of a recovery. Neither bleeding, vomiting, purging, bark, cordials, acids, nitre, ſmall doſes of laudanum, nor bliſters, appeared

to

to be of the leaſt ſervice. I was induced, by the great want of ſucceſs, to try a different practice.

This practice conſiſted in giving a full doſe of laudanum every eight hours, giving freely of cooling antiſeptic liquors, and keeping the belly open. I began the laudanum from the firſt appearance of the eruption, and continued it, increaſing the doſe every ſecond day throughout the whole progreſs of the diſeaſe.

During the ſymptomatic fever, I generally joined with it an infuſion of bark. Its uſe was preceded by a laxative.

Since I followed the above practice, I have had under my care four grown-up perſons afflicted with confluent ſmall-pox. Of that number three recovered; and the fourth I had not an opportunity of ſeeing, until ſeveral days after the appearance of the eruption.

VII.

VII.

The Hiſtory of a remarkable Affection of the Legs, terminating fatally. Communicated to Dr Duncan, *in a Letter from Mr* B. Wilmer, *Surgeon in Coventry.*

IF you ſhould ſuppoſe the incloſed caſe not unworthy of a place in the next volume of your uſeful Commentaries, you will do me a favour in publiſhing it there.

Mr Gaunt, ſurgeon in Merriden, in the county of Warwick, aged fifty-four, about twelve years ſince had a fever of four months continuance, which left him deprived of memory. Notwithſtanding this misfortune, he continued his buſineſs, which was fatiguing, and enjoyed an uninterrupted ſtate of good health, till the Spring of the year 1787, when his appetite for food was become ſo voracious, and he ate and drank to ſuch a degree, that his

his friends were apprehenſive that ſome diſagreeable conſequences would enſue, and adviſed him, but in vain, to loſe blood, to prevent a fit of apoplexy; of which, from a conſtant ſleepineſs that attended him, they were particularly fearful.

On the 23*d* of *Auguſt*, in the morning, he complained of a great coldneſs of his feet; walked about to viſit his patients; and in the evening his legs were bathed in warm milk and water. He paſſed the night with inquietude; ſlept little, although he took ſeven grains of ſoap-pill at bed-time; and at times was ſlightly delirious.

On the ſucceeding day he was ſleepy, kept his bed, the coldneſs of his legs continuing; and no means that were tried produced any warmth in them.

At this time, the ſkin was not cold to the touch of the perſon who examined them, and he had then neither pain nor numbneſs in the parts. He now took, every ſix hours, half a dram of bark, with twenty grains of ſnake-root.

Two days from the time he firſt complained of the coldneſs, he loſt the ſenſation of feeling

ing in both legs; but the ſkin was not in the leaſt diſcoloured; and he could move his legs and feet in all directions.

Bliſters were now applied to the inſide of each leg: They occaſioned a diſcharge, without exciting pain.

On the 2*d* of *September*, his brother, a ſurgeon of Birmingham, was conſulted. He ordered the bark to be continued, with the addition of confect. cardiaca, and the common fomentation to be applied to his legs. A cataplaſm alſo of oatmeal and beer grounds was directed.

September 8*th*. I was deſired to viſit him. Both his legs at this time were dead, and cold as marble. At the parts where the bliſters had been applied, and the epidermis removed, the rete mucoſum had aſſumed a chocolate colour; but, in other reſpects, the ſkin of the limbs was not diſcoloured, but had exactly the ſame pallid appearance as thoſe of a man who had been dead three or four days.

I applied the point of a knife to the ſkin in various parts, without his being ſenſible of it. About an inch above each knee he felt the knife; and the ſkin was there warm. Theſe

circumſtances

circumſtances marked the extent of the mortification, for the eye could not perceive where it terminated. He could move both his legs from the bed with eaſe. His pulſe was rather quicker than uſual, but without hardneſs or intermiſſion. His urine and ſtools, in quantity and quality, were natural. Upon enquiring into the ſtate of his appetite, he informed me, that he had, on that day, dined on cold roaſted beef and cucumber.

September 10th. I viſited him again. He complained then of ſome pain about his knees. Applying my hand to one of them, the ſkin there was warmer than uſual; and, for the extent of ſome inches down each leg, the integuments had the appearance of returning life. Below the calf of each leg, the ſkin was becoming green; and, nearer the feet, had aſſumed a complexion of various ſhades, from a light green to a faint yellow. His pulſe now intermitted, about one ſtroke in ten. His tongue was furred; and he had been, at intervals during the night, delirious. On the outſide of the left thigh, the integuments ſhewed a diſpoſition to gangrene, and were diſcoloured for a conſiderable extent. He anſwered all the que-

ſtions that were aſked him rationally; ſeemed perfectly ſenſible of his dangerous ſituation, and begged I would publiſh his caſe.

12*th*. The gangrene of the left thigh had increaſed much, and covered more than half the ſurface of the vaſtus externus muſcle. He was weaker and worſe in every reſpect.

14*th*. The diſeaſe had ſpread rapidly. The gangrenous diſpoſition had increaſed in the left thigh, and appeared in the right. He was very low, and delirious; and, at ten o'clock at night, he died.

I ſhall forbear to relate to you the various remedies, internal and external, which I recommended in this extraordinary caſe; becauſe, as they were ineffectual, it would be employing your time to no uſeful purpoſe.

VIII.

VIII.

Hiſtory of a Caſe of obſtinate Cough, returning at intervals, removed by the uſe of the Cuprum Ammoniacum. By Mr Benjamin Bell, *Surgeon at Wigton in Cumberland.*

A. D. aged 21 years, applied to me in December 1784, for a violent cough. She is above middle ſtature, and apparently robuſt. Her menſes had flowed at regular periods, but had been ſcanty for two years paſt, which was the beginning of her indiſpoſition. She ſays ſhe was ſeized ſuddenly, after getting wet at the time of menſtruation, with a moſt fevere fit of coughing in the evening, which continued till noon the day following, without any remiſſion, ſo as to alarm both her maſter and miſtreſs exceedingly. They immediately called in the family apothecary; and he adminiſtered different medicines, without any apparent advantage whatever.

The paroxyſm continued violent, like one in the hooping-cough, for near fourteen hours; after which ſhe found herſelf exceedingly debilitated, with ſome remains of cough and dyſpnœa at times. But this did not hinder her from doing her duty as a ſervant, for ſome months after.

She was then ſeized with another fit of coughing, as ſevere as before, and of the ſame duration. As the apothecary employed before, did not give her any relief, they employed another with as little ſucceſs; for the medicines adminiſtered neither ſhortened the paroxyſm, nor prevented its return.

From repeated attacks of this kind, ſhe was obliged to leave her ſervice, and to go home to her father's, when ſhe applied to me.

This was about two years from her firſt attack. She then menſtruated pretty regularly; but ſtill in leſs quantity than when in health. Her appetite was only middling. She reſted tolerably in the nights, when free of dyſpnœa. She had thirſt. Her tongue was clean, and belly regular; but ſhe was not quite ſo corpulent as before the attack. Her pulſe was quick; and ſhe was ſenſible of her being more feeble than when in perfect health.

I looked

I looked upon her complaints to proceed from a great degree of mobility of the nervous ſyſtem, which led me to ſuppoſe, the remedies beſt ſuited to remove them, were thoſe that were moſt effectual in removing relaxation of the nervous ſyſtem, ſuch as tonics in general. I had, lately before, had great opportunities in ſeeing the good effects of copper as a general tonic, which led me to the uſe of cuprum ammoniacum. This I adminiſtered at firſt in ſmall doſes, increaſing the doſe as carefully as I could, to produce no ſickneſs, or as little as poſſible. She perſevered in this manner for a few weeks with great advantage; all her former complaints immediately went off; and ſhe has ſince enjoyed as good health as before her attack.

In 1786, I was called to her in labour, when ſhe was delivered of a fine healthy boy. She had been then about twelve months married, and never had any return of her former complaints.

IX.

Hiſtory of two Caſes of Compound Fractures, demonſtrating the benefit to be derived from the excluſion of Air. By Mr Andrew Williſon, *Surgeon in Dundee, and Member of the Royal Medical Society of Edinburgh.*

AS the excluſion of air, in the treatment of many caſes of wounds, proves a very important circumſtance in the cure; I hope, that the communication of the two following caſes of compound fracture, which ſerve to illuſtrate that doctrine, will not be unacceptable.

On the *1ſt* of *May* 1787, I was called to ſee Robert Gibſon, aged 41, a labourer, of a robuſt conſtitution, florid, and full of blood, who had fallen from a ſtone-quarry, where he was at work, to the ground beneath, at the diſtance of forty feet. I found him, immediately after the

the fall, lying with his left leg broken in two different places. The upper end of the tibia was protruded forth through the ſkin and cellular ſubſtance, about the middle of the bone; and three inches, directly under the external opening, I diſcovered a tranſverſe fracture of both tibia and fibula, though not connected with the wound in the correſponding teguments. The fractured ends of the tibia ſeemed to be almoſt ſeparated, and ſplit into ſeveral pieces, as appeared from the crackling and grating noiſe that were evident on the part's being handled, or on the ſlighteſt preſſure. A branch of the anterior tibial artery had probably been laid open, as the blood ſprang from the wound with a conſiderable degree of violence, and a profuſe hæmorrhage had already taken place before I ſaw him.

On conſulting with my brother Dr Williſon about this caſe, we agreed to give the poor man all the chance in our power to ſave his leg from amputation; although, indeed, we both had but ſmall hopes from the experiment.

The hæmorrhage was ſoon reſtrained by the application of the tourniquet, and the

protruded portion of the bone replaced, which was effected without the neceſſity of enlarging the opening through which it was puſhed, owing chiefly to the protruſion not being ſharp-pointed, and of inconſiderable length.

Having accompliſhed the reduction of the fracture, and laid the limb in a ſtate of moderate flexion upon its outſide, a pledgit of ſoft dry lint was applied lightly over the wound. The leg itſelf was ſurrounded with a twelve-tailed bandage; and the whole firmly ſecured by two *ſtay-ſplints* of a proper ſize.

We attributed much of the cure, in this caſe, to the uſe of theſe ſplints, ſome pairs of which had fortunately been ſent us from London, previous to this accident. Theſe *fracture ſtay-ſplints* are conſtantly employed in St Thomas's and Guy's Hoſpitals; and I here earneſtly beg leave to recommend their uſe to the practitioners in this country. They are much ſuperior to the paſteboard ones, or thoſe made of wood, tin, or any other material yet diſcovered, as they poſſeſs not only a greater degree of firmneſs longitudinally, but likewiſe a ſufficient pliancy, tranſverſely, for aſſuming the ſhape of the part included.

An

An anodyne was given at bed-time. Next morning, twelve ounces of blood were taken from the arm; and a rigid obſervance of the antiphlogiſtic regimen enjoined, for the firſt ten days.

On the 22*d* of *May*, exactly that day three weeks from the accident, we judged it neceſſary, for the *firſt time*, to unlooſe the bandages, and examine into the ſtate of the wound. On inſpection, we had the ſatisfaction to find, that though a conſiderable diſcharge of well-digeſted matter had taken place, the external opening appeared perfectly cloſed, the rectitude of figure in the bone was preſerved, and the poſture of the limb itſelf the ſame as when the reduction was made.

The pledgit of dry lint, together with the twelve-tailed bandage, were inſtantly renewed; the whole properly ſecured with the ſtay-ſplints, and the leg depoſited on the pillow in the very poſition in which the fracture was firſt reduced.

A more liberal uſe of wine, plenty of eaſily digeſted nutriment, and the Peruvian bark conjoined with the vitriolic acid, were now preſcribed.

After

After other three weeks from the above dreſſing had elapſed, the bandages were again removed; and finding the bones firmly knitted together, we laid them entirely aſide, and in their room applied a large ſaponaceous plaſter. The patient was adviſed to keep his bed a fortnight longer to complete the cure, which with ſome reluctance he complied with. After this, he took to crutches for a few days: and in the ſpace of about ten weeks from the accident he was able to perform his uſual work, without lameneſs, crookedneſs, ſhortneſs, or any deformity whatever in his limb.

2.

On Wedneſday, 29th April laſt, I was deſired to attend, along with Mr Rait, ſurgeon, John Watt, aged 19, a ſailor, of a vigorous habit of body, who had fallen from a conſiderable height of the rigging of a ſhip, and had pitched upon the deck. On examination, we found that he had received a compound fracture of his left leg, and had loſt a pretty large quantity of blood from the wound.

Both

Both the bones of the leg were broken, ſomewhat obliquely; and the end of the tibia was thruſt through a wound of the ſkin and teguments, about a hand-breadth above the ankle.

After having reduced the fracture, without having had occaſion to enlarge the opening, and placed the limb on its outſide, with the knee moderately bent, much the ſame mode of dreſſing was adopted as in the preceding caſe; only, paſteboard, inſtead of the ſtay-ſplints, were uſed, the latter unluckily not being at hand.

An anodyne draught, with ſixty drops of laudanum, was given at bed-time, and a ſtrong ſolution of lead applied over the foot and dreſſings. The anodyne was continued every night, and the ſolution uſed thrice a day, for the firſt fortnight, after which they were both omitted. During all that time he kept perfectly free from fever, his pulſe being ſeldom above the natural ſtandard. He had no ſtool till the 12th of May, which we conſidered as a favourable circumſtance, ſince by that means the limb was kept longer in that ſtate of quietude ſo abſolutely neceſſary to the completion of a perfect cure. We remarked, that, without

without the aſſiſtance of a laxative, a copious evacuation ſupervened, the day after the anodyne had been omitted. Encouraged by the ſucceſs of the former caſe, and by the age and habit of body of our patient, we reſolved to give the doctrine of the excluſion of air from wounds the faireſt trial in the preſent inſtance. Accordingly, on Thurſday the 4th of June laſt, preciſely five weeks and one day from the accident, we, *for the firſt time*, unlooſed the bandage, and to our infinite ſatisfaction found, that not only a very complete reunion of the bones had taken place, but that the wound of the ſkin, and correſponding teguments, was healed up by *the firſt intention*, and a cicatrix formed on the part.

The only thing to be regreted in this caſe, was the want of the ſtay-ſplints. The lad being young and giddy, was of courſe very fretful and unmanageable, ſo that his limb could not be ſo ſteadily retained in one poſture by the paſteboard ſplints: by this means the foot was turned a very little outwards; which, conſidering the circumſtances of the caſe, cannot be regarded but as a matter of trivial importance

X.

Hiſtories of Caſes of Abſceſſes in the Liver; with Obſervations on the effects of Opening them. By Dr James Clark *of Dominica, Fellow of the Royal College of Phyſicians of Edinburgh.*

THE following caſes are publiſhed with a view of encouraging young practitioners of phyſic and ſurgery, in warm climates, to open abſceſſes in the liver, when they point outwardly. They are all that have fallen under my care; or at leaſt, all whoſe conſent I could obtain to have the operation performed on them. And although that operation has not been attended with ſo much ſucceſs as could have been wiſhed for; yet the preſervation of two lives out of three, of thoſe who otherwiſe muſt have unavoidably fallen victims to the diſeaſe, is an object worthy the attention of every ſurgeon: and I preſume it will appear

appear probable, that the failure of ſucceſs in theſe few (except in the firſt and fourth caſes), was entirely owing to the operation having been too long delayed. Where there is a ſingle abſceſs, and that is opened early, or as ſoon as a fluctuation of pus can be diſcovered, even if the patient be conſiderably emaciated, there is the greateſt reaſon to expect his recovery. The abſolute neceſſity of ſuch a meaſure, and the great probability of its ſucceſs, ought to be ſtrongly urged to thoſe patients who may be unwilling to ſubmit to it.

The facts are related as they occurred; and the obſervations on hepatitis which follow the caſes, are the reſult of ten years practice in an iſland where that diſeaſe was extremely prevalent.

CASE I.

On the 2d November 1780, Mr A——— C———, a carpenter, aged 32 years, ſhewed me a ſwelling in his right ſide, a little below the ſhort ribs, about four inches from the cartilago

cartilago enſiformis, in which I could plainly feel a fluctuation of pus.

I acquainted him, that the only chance left for his recovery, was to allow an opening to be made into the tumour to diſcharge the matter. He conſented to have it done next day; and as this operation, as far as I could learn, had never been performed in the iſland before, owing, moſt probably, to the horror which the idea of being cut into occaſions, I requeſted Dr Robert, an old practitioner, to be preſent.

I made an inciſion with a ſcalpel, about three inches long, in the direction in which the abſceſs pointed, cutting very cautiouſly through the peritonæum; till, finding it adhered cloſely to the liver, I penetrated the tumour, which diſcharged about a quart of pus tinged with bile. Two ſmall arteries bled a little, but there was no occaſion to uſe ligatures.

After cleaning the parts well, pains were taken to keep the lips of the inciſion aſunder with lint, and to give vent to the pus as it collected. Next day, and the day following, the abſceſs was ſyringed with warm milk and water,

water, and dreſſed evening and morning; and the pus had a free diſcharge. Notwithſtanding this, the hectic fever ſtill continued; which gave us reaſon to ſuſpect another abſceſs.

We examined his ſide all round; and on comparing it with the other, it was evidently much larger; but it did not point outwardly, which made us conclude the abſceſs to be on the concave ſide, and therefore quite out of our reach. He was dreſſed twice a day, and well ſupported with nouriſhment till the 10th November, being the ſeventh day from the time the firſt abſceſs had been opened, when the other burſt inwardly; and he expired ſoon after.

DISSECTION.

The ſame evening we opened the body, and found the right lobe of the liver adhering to the peritonæum and diaphragm all round. And upon opening the thorax, for a more accurate inſpection, we diſcovered an abſceſs in the upper convex part of the lobe, not far from

from that which had been opened, containing about a quart of pus: and the lower and concave part of the ſame lobe was in one large abſceſs, which diſcharged at leaſt a gallon of bloody purulent matter. This abſceſs had burſt at the back part, and had diffuſed pus all over the bowels; and it had alſo penetrated the diaphragm and got into the lungs, as the patient coughed up a conſiderable quantity of matter before his death.

There was no communication between theſe three abſceſſes. The left lobe of the liver was ſound, as were alſo the ſpleen, and the other abdominal viſcera, and likewiſe the lungs, excepting the right lobe, which was a good deal inflamed, and ſmaller than the other.

REMARK.

I have diſſected many people who died of abſceſſes in the liver, but never before found more than one abſceſs, which generally comprehended the whole ſubſtance of the right lobe, leaving only the outſide membranes like a ſhell, not thicker than common leather, with

ſome protuberances here and there, reſembling honeycombs.

The following practical obſervation will tend to ſhow how quickly the acute hepatitis may terminate in an abſceſs, when not attended to at the commencement. This patient ſent for me the 17th October 1780. He had then been only five days ill, during which time he had taken a doſe of ſalts, and drank tamarind beverage, which had kept him open in his bowels. At this time he had all the ſymptoms of acute hepatitis, marked in the ſtrongeſt manner; and being an athletic man, of a ſanguine temperament, and accuſtomed to hard labour, I bled him largely, and began mercurial frictions upon the ſide affected, immediately; which were repeated every two hours. Six hours after, I took away upwards of a pound of blood more, which was remarkably ſizy, and had a very thick buff on the top after cooling, as the blood taken away the firſt time had.

At night, which was about twelve hours after I had firſt ſeen him, nearly the ſame quantity of blood was taken away, which had the ſame inflammatory cruſt on it. A calomel

pill

pill was given, and nitre was put in his barley-water for common drink. Next morning his pulſe was ſoft; and as he complained of being very weak, I could not venture to take away more blood; but the pain of his ſide not being abated in the leaſt, I ordered a large bliſter to be applied over it, and the mercurial ointment to be rubbed upon his left ſide. The quantity was about two drams every four hours. The calomel pill was given twice a day, and nitre in his barley-water, which, with the aſſiſtance of glyſters, kept him ſufficiently open in his bowels.

He continued this courſe for near ſix days, about which time he complained of a ſoreneſs in his gums and mouth; but no ſpitting came on, which I conſidered as a bad ſign. The bliſtered parts being now quite healed, and the pain in his ſide much abated, he propoſed going to the country, for the ſake of enjoying cool air, and living upon a milk diet, to which I conſented; and I did not ſee him till a fortnight after, when he ſent for me to ſhew me the ſwelling in his ſide, as related before.

He attributed his diſorder to cold, which he ſaid he caught the day of the hurricane, which

happened on the 11th of October 1780. He had wrought hard all that day, endeavouring to ſave his property, and in helping his neighbours, and was in wet clothes all the time. The day following he was attacked with a fever, viz. the 12th October; and the 17th of the ſame month, a ſuppuration had moſt probably taken place, as, after that time, every poſſible means were employed to bring about a reſolution; and by the 10th of November, which was the day that the abſceſs burſt, almoſt the whole ſubſtance of the right lobe of his liver was converted into purulent matter; that is, in the ſpace of 29 days from the beginning of the diſeaſe.

It is perhaps neceſſary to remark alſo, that this man had enjoyed good health for a long time before he was attacked with this diſorder.

CASE 2.

On the 1*ſt* of *June* 1781, I was ſent for to ſee a negro, named Pilot, then the property of Mr D. Campbell. He had complained

ed for ſome time of a pain in his right ſide; and now a ſwelling appeared, and a fluctuation of pus could be felt between the third and fourth falſe ribs, about equal diſtances from the ſternum and ſpine.

I made an inciſion into the tumour about three inches long, and diſcharged at leaſt half a gallon of pus; and finding part of the lower rib carious, I removed as much of it as poſſible at that time, and a little every day afterwards as it exfoliated, till all came away. There was no occaſion to take up any blood-veſſel. The abſceſs was ſyringed with warm milk and water twice a day, and the orifice kept open with lint. He was ordered bark and a nouriſhing diet; and in two months and a half he was perfectly cured.

A month after the operation, it was found neceſſary to dilate the orifice; and, two months after, he was put under a gentle mercurial courſe.

Remark.

This negro was in the prime of life, about 24 years of age, remarkably ſtout, and had been al-

ways very healthy, till attacked with a fever, and pain in his ſide, ſome time before I ſaw him. It appeared to have been of the acute kind. I ſaw this negro, ſeven years after the operation, in perfect health; and he told me, he had never been ſick all that time, nor felt any pain or uneaſineſs in his ſide.

CASE 3.

The *16th June* 1781, M—— L——, a carpenter by trade, aged about 28 years, applied to me for advice, for a ſwelling in his right ſide, in which a fluctuation of matter could be plainly felt. It pointed a little below the falſe ribs, and about three inches from the linea alba. He had been long ill, and was ſo much emaciated by a hectic fever and diarrhœa, that I had little hopes of ſucceſs from the operation. He ſolicited me earneſtly to open it, being ſenſible that it was the only chance he had for life; and as there was no time

time to be loſt, fearing it might burſt inwardly before next morning, I ſent for inſtruments, and made an inciſion into the tumour, immediately in the direction in which it pointed, and diſcharged upwards of two quarts of fœtid pus. The abſceſs was four inches deep. A great part of the omentum protruded while the purulent matter was coming away; and, finding it could not be reduced, I cut it off. Next morning, on removing the dreſſings, I could not find the aperture made into the liver, which did not adhere to the peritonæum as uſual, and therefore had ſhifted its place in the night, owing to the reſtleſſneſs of the patient. After making ſome fruitleſs attempts to get the orifice in the liver to correſpond with that in the abdomen, I was obliged to make another inciſion into the liver, more than an inch deep, before I reached the abſceſs, which diſcharged about a pint of bloody pus. He was dreſſed as uſual, and well ſupported with good nouriſhment and wine, and had a ſtrong decoction of bark, with the extract of catechu given to him frequently; and the diſcharge being very fœtid, the abſceſs was ſy-

ringed twice a day, with a ſtrong infuſion of bark made warm.

Six days after, I found that the liver adhered to the peritonæum, all round the orifice; that he had very little hectic fever, and that the diſcharge began to look well. He continued his medicines, and was dreſſed in the ſame manner till the 26th June, when the hectic fever and diarrhœa had entirely left him. The abſceſs was then ſyringed with warm milk and water, and all medicines diſcontinued. Two months after, the abſceſs being almoſt filled up, and his ſtrength reſtored, I ordered him two grains of calomel in a pill, every evening, and two drams of mercurial ointment to be rubbed in all round the orifice every time he was dreſſed, there being a conſiderable degree of hardneſs to be felt in the liver at this place. He continued this courſe for ſix days; at which time, a gentle ſpitting coming on, the hardneſs of his liver diſappeared ſoon after; and the abſceſs was perfectly healed up in three months from the day it was opened.

RE-

Remark.

This man was not of a ſanguine temperament, nor robuſt. He had been accuſtomed to drink ſpiritous liquors to exceſs, and to lead an irregular life. Seven years after the operation, I ſaw him in good health; and, during that time, he had ſcarcely been indiſpoſed, nor had he felt any pain or uneaſineſs in his ſide. This was the more ſurpriſing, as he wrought hard at his trade, was much expoſed to the exceſſive heat of the ſun, and had fallen into his former habit of dram-drinking.

Case 4.

October 28th 1781. A negro, named Fig, aged about 20 years, had been ſome time ill of a fever, and pain of his right ſide; for which he had been bled frequently, had bliſters applied to the part affected, and took a variety of medicines. At laſt, a ſwelling appeared

peared between the third and fourth falſe ribs, with evident ſigns of a fluctuation of matter. I made an inciſion between theſe ribs, where the abſceſs pointed beſt, which was nearer to the ſternum than to the ſpine; and more than a quart of pus was diſcharged. The integuments were œdematous all round, which made it difficult to mark the place for inciſion; on which account the intercoſtal artery was divided, which was however eaſily taken up. This patient took bark for ſome time, and was dreſſed in the uſual manner, and continued to recover, till the 10th January 1782, when the abſceſs was almoſt healed, and he had recovered his ſtrength, and was in tolerable health. At this time, a putrid dyſentery raged among the French troops quartered in town, which was communicated to many of the negroes, and occaſioned great mortality among them. Fig was unfortunately ſeized with this diſeaſe, which carried him off in a week after.

DIS-

Dissection.

I found his lungs ſound, although the right lobe ſeemed to be much leſs than the left. The diaphragm adhered cloſely to the pleura, as high up as the fifth falſe rib; and the inciſion had been made through them into the liver. The abſceſs was nearly healed; and I had no doubt of his recovery, had it not been for this accidental diſeaſe. The left lobe of the liver was in a ſound ſtate.

This caſe ſeemed to have been of the acute kind, the progreſs of the diſeaſe having been very rapid.

Case 5.

The 16*th April* 1782, Mr G—— M——, planter, aged about 30 years, conſulted me for a ſwelling in his right ſide. He had been complaining for a long time of a bilious purging, intermittent fever, and pain in his ſide and ſhoulder,

ſhoulder, and had uſed ſome mercurial medicines in the country; but a ſuppuration had probably taken place previous to his application for any medical aid. He had a conſtant hectic fever, was bloated in the face, and his legs were much ſwelled; and he was ſo weak, that he fainted frequently on his attempting to walk. He continued ſo long in a fainting fit, the evening I firſt ſaw him, and had ſuch a chillneſs after it, that I thought the abſceſs had burſt: but finding him better next morning, and very anxious to have the tumour opened, I complied with his requeſt, although reluctantly, having no hopes of ſucceſs.

I made the inciſion between the ſecond and third falſe ribs, nearly half way between the ſternum and the ſpine, where it pointed, and diſcharged upwards of half a gallon of pus. This abſceſs was ſo very large, that a common probe ſcarcely reached the bottom of it; and the pus was extremely fœtid and bloody. It was ſyringed with a ſtrong infuſion of bark twice a day, for the firſt week; after which, warm milk and water was uſed, and the inciſion kept open. He took a glaſs of the ſtrong

decoction

decoction of bark, with the extract of catechu frequently, for a week; and was well ſupported with nouriſhment and wine.

In ſix weeks he had recovered his ſtrength, but the abſceſs was not near filled up; and the orifice being almoſt cloſed, it was neceſſary to dilate it, which was done with a directory and crooked biſtory. Soon after this, a courſe of mercurial frictions was begun on the right hypochondrium, and continued till a gentle ſalivation was brought on; after which, the abſceſs filled up very rapidly, and was perfectly healed in twelve weeks from the time it was opened.

Remark.

I knew this patient for five years after the operation, during which time he had never been ſick, although he was much expoſed to the violent heat of the ſun, and to get wet in the rainy ſeaſon, and had alſo taken to his old habit of drinking ſtrong grog, with which he was frequently intoxicated. After this period he went to Martinico, and I heard no more of him.

Case

CASE 6.

4th November 1782. A negro, named Symon, the property of Monſ. Jacquin, planter, aged about 25, was brought to me. He had been long ill, and was ſhewn to me a month before for the ſame complaint; at that time I adviſed the opening of an abſceſs in the right lobe of his liver, which pointed outwardly, between the third and fourth falſe ribs. But his maſter indulged him to go to the country, to be treated by one of his own countrymen (famous among the negroes for curing diſorders of a doubtful nature, and for removing witchcraft, in which they believe), called there an Obiah man.

When he returned to town, the abſceſs was increaſed to its utmoſt extent, and I expected it would burſt every moment. He was beſides by this time ſo much exhauſted with a violent hectic fever, and conſtant purging, that I deſpaired of ſucceſs, and would not have opened it, had not the negro,

gro, as well as his maſter, ſolicited me very earneſtly to do it. This aroſe from their hearing of my late ſucceſs; for it was for ſome time after the firſt died, before I could obtain the conſent of any more. Many died of the abſceſs burſting, rather than conſent to it.

The inciſion was made upwards of three inches long; and, as far as I could gueſs, there were at leaſt three quarts of very fœtid pus diſcharged. The abſceſs ſeemed to comprehend the whole ſubſtance of the right lobe. The lower rib, where it pointed, was alſo carious. This negro died three weeks after the operation, being quite emaciated: and on diſſection it was found, that the whole ſubſtance of the lobe had been conſumed before it was opened, leaving only the external membranes, in form of a bag or ſac. The diaphragm adhered to the pleura, as high up as the upper part of the abſceſs. The left lobe was ſound.

REMARK.

If this abſceſs had been opened when it was firſt propoſed, there is, I think, little doubt that this patient would have recovered, as he had a good conſtitution, and was remarkably ſtout. The hepatitis preceding the abſceſs, was probably of the acute kind. He had been treated by a French ſurgeon, viz. bled and purged frequently: but no mercury had been adminiſtered to him in any ſhape.

CASE 7.

December 1783. A negro, named Senegal, the property of J. W. Eſq; had an abſceſs in the right lobe of his liver, pointing a little below the falſe ribs, about two inches from the linea alba. The inciſion was made as uſual, and at leaſt a pint of pus diſcharged. The abſceſs extended the length of a common probe towards the cartilago enſiformis. It was

was dreſſed twice a day; and bark and wine were given for ſome time. In two months, the abſceſs was quite filled up, and entirely healed.

Remark.

This negro was much addicted to drinking ſpirits; and the impoſthume formed inſenſibly. As he was old and weakly, I attributed the ſucceſs of the operation to its having been performed early.

Case 8.

July 1784. A negro woman, named Preſent, belonging to C. W. Eſq; aged about 25 years, had an abſceſs in her liver, pointing below the falſe ribs of her right ſide, about two inches from the linea alba, and in a direction towards the cartilago enſiformis. It was opened in the uſual manner, and about a quart of pus diſcharged from it. Upon examining all

round with my finger, I diſcovered a ſmall opening into the left lobe, through the middle ligament, which I dilated very cautiouſly with a ſcalpel, and found it to be another abſceſs, communicating with the former by this ſmall opening, and from which was diſcharged about a pint of pus. This abſceſs was ſyringed and dreſſed in the uſual way for two months, when it was entirely filled up and healed.

REMARK.

This is the only caſe of a female with an abſceſs in the liver that fell under my care; and alſo the only inſtance of the abſceſs extending into the left lobe.—This woman had been long complaining, and was addicted to drinking of ſpirits: but the hepatitis came on rather inſenſibly, when ſhe was with child, by ſlight pains in her right ſide, and about the pit of her ſtomach, attended with a purging, for which ſhe had been bled frequently, and had taken ſome doſes of rhubarb. After delivery, a fluctuation of pus became quite evident, it being rather doubtful before. She nurſed her

her own child, and it did well. She remained in good health for four years after, during which time ſhe had more children.

CASE 9.

July 1785. A negro belonging to Monſ. P— la R——, planter, aged about 19, had an abſceſs in his liver, pointing below the falſe ribs of his right ſide, rather towards the back part, nearly at equal diſtances from the linea alba and the ſpine. The inciſion was made in the direction in which the tumour pointed: about a quart of pus was diſcharged; and it was filled up and entirely healed in about three months.

REMARK.

From what I could learn, the diſorder came on inſenſibly: but he had the yaws ſome time before, for which he had been improperly

treated; which left him in a bad habit of body, and was probably the cauſe of the abſceſs not healing ſooner.

CASE 10.

July 1785. A negro, aged about 25 years, belonging to a Frenchman in town, was ſent to me for a ſwelling in his right ſide, which I diſcovered to be an abſceſs in his liver, pointing below the falſe ribs, about three inches from the linea alba. It was opened next day, and diſcharged at leaſt a quart of pus. It was dreſſed in the common way; and was filled up and entirely healed in ſix weeks. This negro was very robuſt. The diſeaſe ſeemed to have been of the acute kind.

CASE 11.

September 1786. Mr M——, planter, aged 48 years, applied to me for advice, having a ſwelling

ſwelling in his right ſide, not far from the pit of his ſtomach, inclining towards the ſhort ribs. He had taken ſome purgatives before I ſaw him. The tumour was very hard all round, but not very painful to the touch. I ſuſpected that a ſuppuration had already begun; but for fear of being miſtaken, a courſe of mercurial frictions was commenced immediately, and perſiſted in every four hours, till a ſpitting came on, which happened on the fourth day.

Some days after, the tumour became ſofter, and ſhewed more evident ſigns of a fluctuation of pus. An emollient poultice was then applied over the part; and he was adviſed to come to town for a few days, to have the abſceſs opened, to which he ſeemed very averſe, and delayed coming for three weeks. He was now much emaciated by a hectic fever and diarrhœa; and the tumour was greatly increaſed in ſize, which, when opened, diſcharged an incredible quantity of very fœtid purulent matter. On examining the abſceſs with my finger, and a long probe, I found the whole ſubſtance of the lobe apparently conſumed; and therefore deſpaired of his re-

covery. The great diſcharge of pus waſted him gradually till the ſixth day after the abſceſs was opened; when he died, being quite exhauſted.

REMARK.

I had not an opportunity of opening the body after death; but I am convinced, from the diſtance to which the probe entered the abſceſs in all directions, that the ſubſtance of the lobe was quite conſumed. Had this patient conſented to my opening the tumour a few weeks ſooner, he in all probability would have recovered, although his conſtitution had been much injured by his long reſidence in a warm climate. He informed me, that the diſorder came on ſlowly, attended with flying pains about his ſide, and frequent purgings. He could aſſign no cauſe for it; only, that he was obliged to drink rum which was not always of a good quality.

CASE

CASE 12.

October 2d 1787. I was ſent for to ſee Mr H——, a carpenter, aged about 30, who had been labouring under an intermittent fever and diarrhœa for ſome time, attended with a pain, and (of late) a ſwelling in his right ſide.

On examination, I found an abſceſs pointing below the falſe ribs, about two inches from the linea alba, and extending towards the cartilago enſiformis, which I opened next morning, and about three Engliſh pints of fœtid pus were diſcharged from it. A ſmall artery was divided in cutting through the integuments, which was taken up. A ſinus extended, the whole length of a common probe, up in a direction towards the cartilago enſiformis.

He was dreſſed twice a day in the uſual way; had a nouriſhing diet and wine allowed him, and took a glaſs of the ſtrong decoction of bark, with Terra Japonica, frequently, for the firſt ten days; after which, he began to

recover his ſtrength, and left off taking medicines. The abſceſs was filled up, and perfectly healed in two months and a half.

REMARK.

This patient was ſo much emaciated before the abſceſs was opened, that he could ſcarcely ſtand; and four months after, he was in perfect health, and able to work at his trade. The diſeaſe came on in the form of a remittent, and afterwards intermittent fever, attended with a bilious flux and teneſmus. I did not ſee him till the abſceſs was formed.

CASE 13.

February 14th 1788. Mr H——, planter, aged about 30, had been long complaining of a pain in his right ſide, for which a mercurial courſe had been purſued without effect, a ſuppuration having probably taken place before that

that method of treatment was recommended to him. When I firſt ſaw him, a fluctuation of pus could be plainly felt between the ſecond and third falſe ribs of the right ſide. I opened the tumour, and about a pint of pus was diſcharged from it. He was of a timorous diſpoſition, and would not allow the abſceſs to be cleaned and dreſſed as it ought to have been; notwithſtanding which, it was almoſt healed up in ſix weeks time, when he went to the country. But, being addicted to drinking of ſpirits, and to lead an irregular life, he was ſeized with a fever about three months after the operation; at which time, as I was informed, the orifice of the abſceſs inflamed and opened a little, and diſcharged ſome fœtid matter, and was in a gangrenous ſtate before he died, which was in a few days after he was attacked. Being at a conſiderable diſtance in the country, I could not go to examine his body: but there can be little doubt that his death was owing to this fever, and not occaſioned by the abſceſs. It was the ſmalleſt that I had ever opened; and, being otherwiſe in pretty good health, he had every chance for a recovery.

GENE-

GENERAL REMARKS.

Several white people under my care died of abſceſſes that did not point outwardly; and many died of them when they pointed well, whoſe lives might have been ſaved, had they conſented to the operation.

I never knew any perſon recover, after the abſceſs had burſt.

On diſſection it was found, that many negroes had died of abſceſſes in the liver, whoſe death was attributed by their maſters to other diſeaſes.

I never knew an inſtance of an inflammation of the liver ending in gangrene: but a very extraordinary caſe, in which it ended in ſchirrus, fell under my care.

QUERY.

When a patient is afflicted with phthiſis pulmonalis, attended with a fixed pain in his ſide; Might we not venture to make an inciſion

ſion between the ribs into the part affected, and thereby endeavour to diſcharge the purulent matter externally, and heal the ulcer? —In ſuch caſes, there is generally an adheſion of the lobe of the lungs to the pleura; at leaſt it has always occurred to me on diſſection.

General Obſervations on the Symptoms and Treatment of Hepatitis, &c.

The acute hepatitis comes on like a pleuriſy, only the pain is ſeated much lower, and is not near ſo pungent, but rather attended with a ſenſe of weight; and, as far as I have obſerved, is always in the right ſide. It generally returns by fits, and is greatly increaſed upon preſſing the liver all round the falſe ribs of that ſide, after laying the patient on his back, with his head low. The pulſe is ſoft, and the feveriſh heat not near ſo violent as in the pleuriſy. There is frequently a pain about the clavicle or top of the ſhoulder, which returns, like ſpaſmodic affections, at nearly equal

ſtated

ſtated periods: but although this ſymptom is truly characteriſtic of the diſeaſe, when it occurs, it is by no means conſtant. There is uſually a ſhort dry cough, without expectoration. It is rarely attended with hiccup, or vomiting. Bilious, frothy ſtools, with teneſmus, are a very common ſymptom. But the moſt general diagnoſtic ſymptom is the inability to ſneeze, even when ſtimulating ſternutatories are uſed to excite it. Strong hard-working people, and thoſe of a ſanguine temperament, are moſt frequently attacked with it.

When a patient has frequent returns of a bilious purging, becomes pale and bloated, and has a dull white colour, or a yellow tinge in his eyes, attended with great uneaſineſs about the pit of his ſtomach, an unnatural craving for food at times, and a ſlow fever, a chronic hepatitis is ſtrongly to be ſuſpected. If obſtinate conſtipation ſucceeds the purging and teneſmus, and if there be a ſenſe of weight, and a heavy pain in the right hypochondrium on preſſing the fingers under the falſe ribs, when the patient is in a recumbent poſture, the diſeaſe is ſtill more certain. But if there be alſo a dryneſs and hardneſs of the gums, a pain about

bout the top of the ſhoulder, and an inability to ſneeze, there can be no doubt of it.

It ſometimes begins in the form of a remittent or irregular intermittent fever, attended with violent pains about the pit of the ſtomach, and a yellow tinge in the eyes; and when two cold ſtages happen in the courſe of 24 hours, this diſeaſe is much to be apprehended. It moſt commonly attacks people whoſe conſtitutions have been much impaired by the diſeaſes of warm climates, and thoſe who live poorly, and are addicted to drinking ſpiritous liquors to exceſs.

Cure.

In the acute kind, bleeding repeatedly, according to the ſtrength of the patient, is never to be omitted. Two pounds of blood, and in ſome caſes four, were taken away in the ſpace of 48 hours. The cool regimen is always to be followed; and a courſe of mercurial frictions to be begun without delay, and continued till a gentle ſalivation be brought on. Sometimes a bliſter was applied to the ſide, but was never conſidered as eſſentially neceſſary towards the cure.

cure. When a practitioner is called in, on the firſt attack of the diſeaſe, this treatment will generally remove it in a ſhort time; but when the patient has not applied for advice for ſome days, which is too often the caſe, it will be neceſſary to give ſmall doſes of calomel two or three times a day, to expedite the action of the mercury on the mouth; as it has been obſerved, that the formation of pus was very rapid in ſome acute caſes, particularly in Caſe 1ſt. And it has been aſcertained almoſt to a certainty, by experience, that if a gentle ſalivation be brought on before ſuppuration happens, it will not take place afterwards. The patient ought however to be cloſely watched, otherwiſe a violent ſalivation might be the conſequence of throwing in the mercury in this haſty manner, which would injure the conſtitution. And this method ought never to be purſued, but in caſes of the moſt urgent neceſſity.

In the chronic kind, immediate recourſe was had to mercurial frictions, without uſing any previous evacuation, or waiting for any preparation whatever; and if the patient had been late in applying for advice, a ſmall doſe of calomel, with an opiate, was adminiſtered once

once or twice a day, till it produced the deſired effect.

Violent rigors are not always certain ſigns of pus being actually formed; for I have frequently ſucceeded in bringing about a reſolution after ſuch ſymptoms had appeared, by continuing the mercurial courſe. When the gums remain dry and hard, after a quantity of mercury has been rubbed in, and given internally, there is great reaſon to ſuſpect that a ſuppuration has taken place. I have only met with three or four caſes, where a ſalivation was brought on after pus had been formed in the liver. The mouth ſometimes ſmells of the mercury; but the gums, tongue, and glands, generally remain dry.

In upwards of 100 caſes of hepatitis which have fallen under my care, none had the left lobe affected, except Caſe 8th; ſo I may be allowed to conclude, that this happens very rarely: and among all thoſe, I had only three women affected: one was a white woman, who recovered; the other two were negroes, who had been much addicted to drinking of ſpirits (viz. Caſe 8th), and one in whom the abſceſs had burſt

burſt inwardly before I ſaw her. All theſe patients had paſſed the age of puberty.

From the year 1779 to 1784, this diſeaſe was very common on the leeward ſide of the iſland of Dominica, eſpecially in and about the town of Roſeau; and during the dry and hot ſeaſon, viz. from March to Auguſt of theſe years, it raged ſomewhat in the manner of an epidemic. There was frequently a ſcarcity of proviſions in the Iſland about that time. Remittent and intermittent fevers prevailed in the Autumn of theſe years, and a putrid dyſentery, which was remarkably fatal. For ſome years paſt, it has not appeared in this manner, nor has it been near ſo frequent as before.

On the windward ſide of the Iſland, where it is cooler by 10 degrees of Fahrenheit's thermometer, at an average, than on the leeward ſide, and where the lower ranks of white people, and the negroes, who are moſt ſubject to this diſeaſe, have not ſuch eaſy acceſs to rum, it is never, or very rarely to be met with; at leaſt I can ſay, that not one caſe of hepatitis, or an abſceſs in the liver, occurred to me, during

during an extenſive practice for ſeven years in that part of the Iſland.

Obſtinate intermittent fevers, eſpecially of the quartan type, have been frequently cured by the judicious uſe of mercury, after every other means had been tried in vain.

Dropſical diſeaſes, depending on obſtructions in the liver, are only to be cured by a courſe of mercury in warm climates, or by a removal to a cold country.

Habitual diarrhœa, and dyſentery when not of the putrid kind, and where there is reaſon to ſuſpect a diſeaſed liver, are to be cured by the ſame means.

Much good has alſo been done in the Weſt Indies, by the prudent uſe of mercury in other diſeaſes beſides thoſe of the liver, viz. in obſtinate rheumatic affections, and ſciatica; and in that moſt excruciating ſpaſmodic diſeaſe, the dry belly-ach, which is commonly removed by it when a ſpitting is brought on, even before ſtools are procured. I have known many inſtances of this; and from thence I have been led to aſcribe the action of mercury to an anti-ſpaſmodic power. Do not its effects in the tetanus, the moſt violent of all ſpaſmodic af-

fections, tend to render this conjecture very probable? I have alſo obſerved, that the pulſe became weaker, and often leſs frequent, after the glands were affected by it. From theſe and ſome other obſervations with reſpect to the efficacy of mercury in other inflammatory diſeaſes, I am much inclined to doubt the opinion entertained by ſome, that its action depends on a ſtimulating power.

XI.

XI.

Hiſtory of a Caſe of Schirrous Liver. By Dr James Clark *of Dominica, Fellow of the Royal College of Phyſicians of Edinburgh.*

ON the *7th September* 1786, I was called in the night to M—— la F——, the wife of a French planter, aged 44 years. She complained of a very ſevere pain in her right ſide, extending from the pit of her ſtomach along the ſhort ribs, where ſhe had ſtruck herſelf with ſome violence againſt the key of a door, two days before, in walking in the dark. By applying camphorated ſpirits and warm flannels at the time this accident happened, the pain abated; but it had now returned with redoubled violence. She had very little fever. Her pulſe was full, and rather frequent, but not hard. She was bled freely, and took a cooling purgative, which relieved her entirely from pain. It was repeated,

however, the day after, and ſome mercurial ointment rubbed upon her ſide frequently, which was not perſiſted in for any length of time, as ſhe found herſelf ſo well that my attendance was no longer thought neceſſary. She ſent for another purgative; and I did not ſee her till the 10th of November following, nine weeks after I had been firſt called to her. I could then feel the right lobe of her liver greatly enlarged, and very hard, having glandular protuberances on the convex ſide. During this time ſhe had had frequent pains in her ſtomach and ſide, which ſhe thought were hyſterical, as her catamenia had not appeared ſince this accident, and ſhe had always been very regular in that reſpect before.

She was brought to a place near town, in order to be better attended, the 14th of November; and a courſe of mercurial frictions on her ſide was begun immediately, and purſued for ſix days without any viſible effect. On this account, it was judged neceſſary to adminiſter a ſmall doſe of calomel twice a day, and to continue the frictions.

Some days after, this produced a ſoreneſs in her gums and mouth, but did not bring on a ſpitting,

ſpitting, nor leſſen the hardneſs and protuberances in the liver; which was conſidered as a very unfavourable circumſtance. The frictions were however continued; and ſhe was kept open in her bowels by ſmall doſes of rhubarb and glyſters, till the 16th of December, viz. 32 days after the courſe had been begun; when ſhe complained of a moſt excruciating pain near the pit of her ſtomach, and became very reſtleſs and feveriſh: on which, the frictions were ſuſpended, and an anodyne draught was given. This pain returned at intervals for four days, viz. till the 20th of December; when a purging of ſomething like purulent matter mixed with blood coming on, her pulſe began to ſink, and her extremities to turn cold; and ſhe expired the next day in the morning.

Dissection.

The ſame evening I went to inſpect the body (having obtained the permiſſion of her relations), accompanied by Dr Fillan, who had attended her with me a ſhort time before her death.

We found both lobes of the liver full of ſchirrous glands, from the ſize of a ſmall bird's egg to that of a hen's, eſpecially in the right lobe, all of an oval form. There were eight or ten of the largeſt ſort; but ſcarcely two of the ſame ſize; and the ſmaller were very numerous: and on the concave ſide of the right lobe, a very large gland had ſuppurated. The cavity where it had been, would have held a large turkey's egg, the bottom of which was covered with a glarey viſcous matter, mixed with blood, of which there was a conſiderable quantity floating in the ſtomach and bowels. Theſe glands were covered with a thick white membrane; and upon being cut into, they were found to contain a pale white ſubſtance, reſembling a ſteatom, which was remarkably ſolid and firm. They were eaſily diſengaged from the liver by the fingers, without the aſſiſtance of any inſtrument. I preſerved three of them in rum.

The other abdominal viſcera were ſound; and we did not think it neceſſary to open the thorax. The body was not emaciated, although ſhe had lived on a ſpare diet ever ſince the accidental hurt ſhe had received.

QUE-

QUERY.

Were all theſe glandular ſwellings the conſequence of inflammation from the blow that this woman received, in running againſt the key of a door, three months and a half before her death?—Or had they been gradually forming for ſome time before that period?—And may not therefore the inflammation, and conſequent ſuppuration of this ſingle ſchirrous gland on the concave ſide of the liver (which was apparently the cauſe of her death), be conſidered as the only conſequence of this contuſion?

XII.

The Hiſtory of the caſe of a Girl, who lived for eighteen days on a barren Moor, and in a cold Climate, without any other ſubſiſtence but water. By Mr John Millar, *Surgeon at Stronoway, in the Iſland of Lewis.*

MARGARET M'KENZIE, aged twelve years, left her father's houſe on the morning of Thurſday the 13th of November 1788, in company with ſome women, with the intention of viſiting the weſt ſide of the iſland. The diſtance to the place to which ſhe intended to go, was fourteen computed miles acroſs a dreary moor. After ſhe had travelled about three miles, ſhe became fatigued, and expreſſed a deſire of returning home. To this the women agreed, as they could not carry her any part of the way, all of them having heavy burthens. One of the women returned with her part of the way, ſaw her over a ſmall rivulet,

vulet, and pointed out to her a place, from which ſhe would have a view of the town: She then left her to proceed on her journey. The father of the girl, who was to follow theſe women, came up with them not long after his daughter had parted from them; and upon being told that ſhe had gone home, he deſiſted from proceeding, and immediately returned with the view of finding her. He frequently holla'd, and cried aloud as he went along; but, receiving no anſwer, he went home, not doubting that he ſhould find her there; but, to his ſurprize, he found ſhe had not arrived. He immediately applied to the chief magiſtrate of the place, requeſting him to aſſemble the people of the town to ſearch for her. This was readily agreed to; and next morning, upwards of two hundred traverſed up and down the moor with dogs for ſeveral miles, but without being able to find her. A ſimilar ſearch was repeated for ſome days, but with no better ſucceſs. At laſt, however, on the 31ſt of November, two boys found her ſtill alive, lying under the ſhelter of a large ſtone, cloſe by the brink of a ſmall rivulet. She had no food when ſhe parted from the company;

company; and ſhe declares ſhe taſted nothing but water during the whole time; and indeed, in a barren moor, at that ſeaſon, there was nothing ſhe could eat excepting heather. I ſaw her about two hours after ſhe was found, and and ſhe anſwered every queſtion put to her very diſtinctly. She was much emaciated. Her pulſe was regular, but quick, being about 110 in the minute. She ſlept ſome that night; and the day following, without any medical aſſiſtance, ſhe had a diſcharge by ſtool and urine. The fœces were very hard, in ſmall pieces, and emitted a very fœtid ſmell. The urine depoſited a vaſt quantity of ſediment. At preſent, January 20th, ſhe is going about in her uſual health.

XIII.

XIII.

Obſervations on the Influenza, as it appeared at Plymouth in the Summer and Autumn of the year 1788. *By Mr* Vaughan May, *Surgeon to his Majeſty's Ordnance at Plymouth. Communicated to Dr* Duncan.

IN the month of June 1788, many people were affected with a ſlight degree of cholera morbus, which was ſoon relieved by the common method of treatment. This gave place to colds and coughs: and on the 7th of July following, I was applied to for aſſiſtance in the influenza, which firſt made its appearance here, among the navy and army at this port.

In general, thoſe who were under my immediate care were ſeized with pain in the head and limbs, ſoreneſs of the throat, pain in the breaſt, and a ſenſe of cold over the whole body. To theſe ſucceeded cough, a great diſcharge

diſcharge from the noſe and eyes, and ſlight nauſea. The feveriſh heat was conſiderable, but the pulſe little increaſed. The patients were generally thirſty, though the tongue was always moiſt. They were commonly coſtive; but in ſome few inſtances, a griping ſenſation was complained of, attended with diarrhœa.

The rapid progreſs of this diſeaſe was beyond deſcription; but in no inſtance under my care did it prove fatal; though, from a want of attention on the part of patients to themſelves, it was ſucceeded in two or three caſes by a very dangerous fever. It was only in very few inſtances that bleeding ſeemed to be indicated; and in none did I obſerve any relief from this evacuation, though there was an evident appearance of ſize on the blood.

Warm diluting liquids were adviſed; and when the cough was very troubleſome, anodynes afforded great relief. I wiſh, however, in a more particular manner, to relate the aſtoniſhing effects of emetics in this complaint. As I have not obſerved theſe ſufficiently ſtrongly inſiſted upon by any writer, and as they may hereafter be found equally uſeful,

I hope

I hope it will not appear preſumption in me to enforce the employment of them. The emetic which I employed, conſiſted of a grain and a half, or two grains, of emetic tartar, combined with twelve grains of the powder of ipecacuan. This was ordered to be taken in ſome diluting drink, and to be waſhed down with three or four pints of an infuſion of chamomile flowers. Beſides a free diſcharge of the contents of the ſtomach, it in general produced a looſe ſtool or two, and a profuſe perſpiration, which was commonly followed by a return of health, every complaint having vaniſhed as it were by a charm. This was ſo evident, that the men themſelves, immediately on the attack of this affection, uſed to apply to me for a vomit, as they called it, being confident that it would cure them. And I can with great truth aſſure you, that among the worſt, and indeed often the moſt threatening appearances, I have, after the above doſe, ſeen every complaint removed in twenty-four hours, inſomuch that in forty-eight hours the men have been returned fit for duty.

The influenza nearly completed its range through this place in about a month; for

on

on the 9th of Auguſt, I had ſcarcely a patient affected with it.

The above remarks relate chiefly to a detachment of the Royal Regiment of Artillery: and it is curious to obſerve, that a company of the Royal Military Artificers ſituated as nearly as poſſible on the ſame ſpot, experienced very little of this complaint. With them it was obſerved only in a much milder degree; and with the inhabitants of the town of Plymouth, it was ſtill leſs ſevere. I cannot help obſerving, that in this attack, all the men in the barrack-room at that time, about ten or twelve, where the infection firſt made its appearance, were regularly ſeized, one after another, previous to its farther progreſs; and that I ſaw one inſtance of a man's having it twice.

It ſhould ſeem, from the firſt appearance and courſe of this diſtemper, that little doubt can remain of its being contagious. Yet ſo little do we know of the cauſes of general epidemic diſeaſes, that I think the matter is ſtill involved in great uncertainty. I will however venture to offer ſome conjectures to your conſideration on this ſubject, which, though they may not carry conviction, will yet, I hope,

hope, be conſidered as not unworthy of attention.

Previous to the appearance of this epidemic, the months of May and June were remarkably dry and warm. Some part of the month of June, in particular, was very hot, the thermometer in the ſhade riſing to 78. During the ſpace of two months it was only eight or ten days below 60, and never lower than 56. The medium heat was between 65 and 66 degrees. The barometer varied but little, being in general 29.8, never below 29.5, and never higher than 30.2. The wind, a great part of the time, was in the eaſtern quarter, ſo that the air was very dry, and the whole face of the country was changed. Vegetation appeared to be quite at a ſtand, and ſerious apprehenſions were entertained, whether the graſs in the fields would ever recover its verdure.

In this ſtate of evaporation, is it at all unnatural to ſuppoſe that the human body ſhould partake? The natural excretions would be increaſed, and in particular perſpiration, to which nature would ſoon accommodate herſelf; and the change being brought about by

by degrees, would occur without any ſenſible injury. But whenever the contrary change takes place, and rain and cold weather ſucceed to warm and dry, the alteration being ſudden, diſeaſe of ſome kind is likely to be the conſequence, and will prevail, according to different conſtitutions, till nature has adjuſted herſelf.

Why a diſeaſe of a peculiar kind ſhould prevail in preference to any other, I do not attempt to explain. But I believe I may venture to ſay, certain it is, that, on ſuch changes, diſeaſe is the natural conſequence: and this diſeaſe is for the moſt part of the catarrhal kind. Theſe ideas led me to the practice above-mentioned, conceiving, that if ſomething could be had recourſe to as a ſubſtitute for the ſudden check received from ſuch changes, nature, from the all-wiſe diſpoſition of Providence, would ſoon accommodate herſelf, and reſtore health and vigour to the conſtitution. How far I am right in theſe conjectures, I will not pretend to ſay. But if the rapid recovery of thoſe perſons who were ſubjected to ſuch treatment will ſpeak in favour of it, I am ſure the numbers are great.

In

In a former part of theſe obſervations I mentioned, that a company of Royal Military Artificers and Labourers, ſituated nearly on the ſame ſpot, had experienced very little of this complaint. This, I think, we may in ſome meaſure account for. I obſerved, through the progreſs of the diſeaſe, that the men who were moſt expoſed to the air were ſooneſt attacked; more particularly centinels on duty during the night, when the air was colder and more unpleaſant. The Royal Military Artificers at that time had very little of this duty, and conſequently were leſs expoſed. This alſo may probably be the reaſon why the inhabitants of the town had leſs of it. The ſeamen belonging to the guardſhips in this port were generally affected; and in ſome of the ſhips, they had two thirds of the ſhip's company ill at a time.

Before I conclude theſe obſervations, I cannot help recommending to ſuch as are in extenſive practice the emetic mentioned above. I have ſeen peculiar benefit derived from it, in the early ſtages of continued fevers: and as far as my obſervations go, theſe advantages are not to be obtained but by a combina-

tion of the two medicines. The good effects reſulting from this emetic, are always in proportion to its activity, and to the evacuations produced. Theſe, as well as vomiting briſkly, take place both by ſtool and by ſweating.

XIV.

XIV.

An Account of good Effects obtained from the uſe of the Vitriolic Acid in the cure of Obſtinate Singultus. By *Dr* A. Duncan, *Phyſician, Edinburgh.*

A GENTLEMAN in the 73d year of his age, who had been long engaged in the practice of medicine with much credit and reputation, was ſeized with hiccough on the 13th of July 1784. This affection began about an hour after breakfaſt, without any obvious cauſe, and at firſt gave him but little uneaſineſs. After continuing, however, for upwards of an hour, it became ſo violent, that he thought it neceſſary to employ ſomething with the intention of checking it. For this purpoſe, he uſed, in ſucceſſion, ſpirits, opium, camphor, and muſk, as well as ſome other practices which have been commonly recommended. But none of theſe had any other

effect, than that of producing at the utmoſt a ſlight temporary intermiſſion; and, notwithſtanding every mode of cure he could think of, it continued to increaſe in ſeverity through the greateſt part of the day; and particularly, from ſix till ten at night it continued inceſſant and ſevere.

In this ſituation, he requeſted to have my advice. As moſt of the practices commonly uſed in ſuch caſes had been already employed withour effect; as I had but a ſhort time before been informed, that a practitioner in the North of Scotland had been ſucceſsful in removing an obſtinate ſingultus, by making his patient drink large quantities of vinegar; and as I knew that this practice had been repeated with ſucceſs in the Royal Infirmary at Edinburgh, I thought it might not be improper to make a trial in the preſent caſe, of ſome remedy of a ſimilar nature. But I imagined, that a more powerful acid might, with equal advantage, and leſs inconvenience to the patient, be ſubſtituted to the uſe of vinegar, which in the caſes alluded to had been taken to the extent of ſeveral ounces at once. I determined, therefore, on having recourſe to the vitriolic

vitriolic acid, which, in a variety of other affections, is every day employed internally with ſafety and advantage.

I preſcribed a mixture, conſiſting of a dram of the acidum vitriolicum tenue of the Edinburgh Pharmacopœia, united with four ounces of mint water; and I directed a table-ſpoonful of this mixture to be taken every half hour, while the affection continued. But as ſoon as he took the firſt table-ſpoonful, the hiccough almoſt inſtantly ceaſed. In a ſhort time he fell into a quiet ſleep, and reſted well during the whole courſe of the night. Next morning he awaked in his uſual health: but about ten o'clock in the forenoon, he had a ſlight return of the hiccough. Upon this he had recourſe to a ſecond ſpoonful of his mixture, which was followed by the ſame effect as formerly, the inordinate action almoſt inſtantly ceaſing; and he has not ſince had any return of that affection.

Although general concluſions cannot with any propriety be drawn from particular and ſolitary caſes, yet I muſt own, that, from this inſtance of ſucceſs, I was inclined to hope, that the vitriolic acid might afford a ſafe, ſpeedy,

and not unpleaſant remedy for a complaint, which, when it occurs as an idiopathic affection, if it be not a dangerous, is at leaſt not unfrequently a troubleſome diſeaſe: and in ſome ſlighter inſtances which have occurred to me, ſince I treated the caſe already related, I have employed the vitriolic acid with ſucceſs. But I was lately informed by an ingenious friend, a practitioner in the country, that he had employed this remedy without any benefit, in a caſe of obſtinate ſingultus, which afterwards yielded to the internal uſe of vitriolic æther. Although, however, it is not to be expected, that the vitriolic acid will be ſucceſsful in every inſtance of ſingultus, yet I am inclined to hope, that in ſome other obſtinate caſes it may prove equally beneficial as in that which I have here related.

SECT.

SECT. III.

MEDICAL NEWS.

A VERY ingenious gentleman, Mr John Gahagan, who is at preſent engaged in the ſtudy of medicine at Edinburgh, has made many experiments upon vegetables, with the view of determining whether their irritability be the ſame with that of the muſcular fibre of animals, and what are the laws by which it is regulated. He has alſo, with great induſtry, collected the obſervations and experiments made by others on this ſubject; from all which he has endeavoured to deduce ſeveral intereſting and curious concluſions. It is

to be hoped, that he will ſoon publiſh his ſentiments on this ſubject at full length. But, in the mean time, it may gratify the curioſity of ſome of our readers, when we here preſent them with a ſhort account of a paper which he has read upon this ſubject, before the Natural Hiſtory Society of Edinburgh. It is, however, proper to obſerve, that, ſince the above paper was written, he has made many other experiments, which tend ſtill farther to corroborate his opinion.

For the laws of the animal œconomy, and for the facts upon which theſe laws are founded, we are chiefly indebted to the labours of Haller and the Abbé Fontana; the latter of whom, by a ſeries of experiments, in which accuracy and induſtry are eminently conſpicuous, has proved, as he thinks, beyond the poſſibility of doubt, the exiſtence of a principle in the animal fibre, independent of nervous energy; from which reſult, upon the application of certain exciting powers, the various actions ſuited to the ſupport of animal life.

This principle, which, with Haller, the Abbé denominates *irritability*, he proves, with the ſame

ſame degree of certainty, to be ſuſceptible of two changes in the living fibre, viz. increaſe and diminution, depending upon the undue abſtraction or application of ſtimulant powers.

As the functions of the animal œconomy, to which the nerves ſeem alone neceſſary, viz, ſenſation and voluntary motion, are never preſent in the vegetable kingdom, the author preſumes, that the abſence of nerves here can in no degree diminiſh the analogy which he wiſhes to eſtabliſh between theſe two great diviſions of created nature.

For the facts reſpecting the functions of vegetables, neceſſary to ſupport the author's concluſions, he acknowledges himſelf chiefly indebted to the experiments of Hales, Duhamel, Des Fontaines, Bonnet, Ingenhouſz, and the ingenious Mr Hunter; from whoſe diſcoveries, joined to what the author has been able to obſerve on the ſubject, he infers, that there is a principle of action common to both kingdoms, upon which their reſpective functions depend, and which, he undertakes to prove, is governed in both by the laws which the Abbé Fontana has laid down for the regulation of the irritability of the animal fibre.

By

By the term *irritability*, the author means only to expreſs a fact, without entering at preſent into a diſcuſſion concerning its cauſe; which fact is this, that certain parts of animals and vegetables are poſſeſſed of a property, by which, upon the application of a ſtimulus, the ends of a ſtraight fibre approach nearer to each other, and the diameter or area of a curved or circular one is diminiſhed.

As the motions of the plants of the genus Mimoſa are very remarkable, and ſtrongly tend to confirm the author's opinion, he begins by noticing a few of them; and firſt, thoſe of the Mimoſa pudica. This plant has pennate leaves, placed on long petioles. Upon the application of a ſmart blow, all the folioles collapſe. If the blow be ſlighter, fewer of them contract; and a gentle touch ſcarcely produces any contraction at all. The motion of theſe leaves is by no means produced by the mechanical action of impulſe, as the very ſame contractions may be excited by the application of other ſtimuli, ſuch as the fumes of volatile alkali, the electric ſpark, muſk, and opium: beſides, it is eaſier to break theſe leaves, than immediately to bring them back to the ſitua-

tion

tion they had before the ſtimulus was applied. The motions of the Averrhoa carambola, of the Oxalis ſenſitiva, and of the Onoclea ſenſibilis, are to be referred ſtrictly to the ſame head. It may be here obſerved, that immerſion in water does not prevent the contraction and relaxation of the ſenſitive plant, but rather increaſes it, though it becomes ſomewhat leſs ſenſible in this ſtate to the action of other ſtimuli. It is perfectly analogous to what we obſerve in animals, that the power of contraction is increaſed by the application of ſtimuli, if it be not carried ſo far as to produce weakneſs: This is a circumſtance which ſeems difficult of explanation, but which is not the leſs to be admitted as a fact. When the parts of an animal are inflamed, their ſenſibility and power of contraction are highly increaſed; and, in the plants above-mentioned, according to the obſervations of Duhamel, their contraction is always greater, in proportion to the heat and dryneſs of the weather, within a certain range. Electricity, which, by innumerable experiments, is found to be a powerful exciting cauſe of contraction in vegetables, as well as in animals, does alſo, when properly applied,

increaſe

increaſe the prediſpoſition, ſimilar to other ſtimuli.

The leaves of the Dionæa muſcipula are each compoſed of two lobes, joined by an articulation. The internal ſurface of each lobe is furniſhed with three ſpines, and with a number of glands, ſecreting a ſweet liquor. When any unfortunate inſect, allured by the honeyed bait, ſettles on the glands, a ſudden and forcible contraction is inſtantly produced; the lobes are applied cloſe to each other, and the glutton is impaled on the ſpines. It is not only by the ſettling of a fly that the contraction of the lobes is excited; their irritability is called into action by other mechanical ſtimuli, as Mr Bonnet has obſerved.

While deſcribing the motions of the footſtalks of plants, it ſeems proper to notice thoſe of the Hedyſarum gyrans *. This plant is furniſhed with ternate leaves, of which two folioles are ſmall, the middle large: Each aſcends by a ſlow but uniform motion, till it has nearly acquired an erect poſture, then falls down ſuddenly; and, after a ſhort interval, again begins

* Brouſſonet Memoires de l'Academie des Sciences.

gins to aſcend. The folioles ſometimes perform a rotatory motion, having their upper ſurface always expoſed to the ſun. The alternate aſcent and deſcent continue, while the plant is immerſed in water; and, even during the night, they are much favoured by warm dry air, though the too powerful influence of the meridian ſun, by exhauſting its irritability, ſometimes ſuſpends theſe motions of the plant. If prevented mechanically, they are renewed with increaſed celerity and vigour, on removing the obſtructing cauſe.

The ſexual parts of plants exhibit ſtill ſtronger marks of irritability. The Berberis vulgaris has ſix ſtamina. If a needle, or any other irritating cauſe be applied to that ſide of the filament which is next the piſtillum, a ſudden contraction takes place, and the anthera is forcibly applied to the ſtigma. After ſome time, the ſtamen returns to its former poſition, and a contraction may again be excited, though leſs eaſily, by the application of a ſtimulus *.

The

* Des Fontaines Journal de Phyſique, Decemcember 1787.

The five filaments of the Centaurea calcitrapoides are at firſt in form of an arch; but when irritated by the finger or a needle, they are extended into right lines, and applied to the ſides of the ſtile. Motions of the ſame kind with thoſe already deſcribed, are obſervable in ſeveral other plants of the claſs ſyngeneſia, particularly in the Heliotropium and Calendula, and alſo in the plants of the genera Cactus, Morus, Parietaria, and Ciſtus.

Beſides the motions of the ſtamina excited by the application of foreign ſtimuli, others more natural are performed by them, which, with Des Fontaines, Mr Gahagan refers to the ſtimulant power of the female organs. In theſe plants, at the time of the maturity of the pollen, the ſtamina apply themſelves to the piſtillum; and after having performed the work of fecundation, return from whence they came, exhauſted of their irritability, by which they ſoon wither and decay. In ſome plants, all the ſtamina are applied together to the piſtillum, as in the Nicotiana, Garidella, and a few others. In the greater number, however, the ſtamina move towards the piſtillum ſucceſſively,

ſucceſſively, either by one, two, or three at a time. Among the plants in which the ingenious Monſ. Des Fontaines diſcovered theſe proofs of irritability in the male organs, may be particularly mentioned the Lilium ſuperbum, the Pancratium illyricum, the Fritillaria perſica, the Zygophyllum fabago, with many others too numerous here to be named.

With reſpect to the female organs, though their motions are leſs apparent than thoſe of the male, as might naturally be expected from the innate modeſty of the ſex, yet Des Fontaines has noticed them in ſeveral plants, viz. in the Paſſiflora minima, the Nigella ſativa, the Oenothera repanda, the Epilobium anguſtifolium, the Hibiſcus malvaviſcus, the Sida americana, and above all in the Collinſonia canadenſis. The laſcivious motions of one plant, in particular, viz. the Gratiola, deſerve to be noticed. Linnæus thus deſcribes it: Gratiola æſtro venereo agitata piſtillum ſtigmati hiat, rapacis inſtar draconis, nil niſi maſculinum pulverem affectans, at ſatiata, rictum claudit. And from his obſervations he is led to lay it down as a rule, that whenever the ſtamina are equal in length to the piſtillum, then the

ſtamina

ſtamina move towards it; and on the contrary, whenever the piſtillum is longer than the ſtamina, the former is the moving part. The ſtigmata are alſo irritable by foreign ſtimuli; of which the Martynia annua affords a remarkable example. Its ſtigma is bifid, and its two ſegments are generally a little open; but on the application of the ſlighteſt touch, the inferior one ſuddenly attaches itſelf to the ſuperior, ſo as to give the appearance of a ſimple ſtigma. The ſame is true of the Bignonia catalpa, the Lobelia ſiphilitica, and cardinalis.

The celebrated Gmelin has diſcovered, that the ſtamina are not only irritable while forming a part of the flower, but alſo when ſeparated from it, and even when cut into pieces. This obſervation is confirmed by Cevolo, who remarked, that when a ſtamen, ſeparated from the flower, was irritated by a needle, it twiſted and contorted itſelf like a little worm.

The author obſerves, it may be expected that he ſhould here take notice of the phænomena of climbing plants. Some of theſe are indeed truly wonderful, and have hitherto baffled any rational attempt that has been made

made to account for them. It is reported, that the Humulus, or common hop, when its pole becomes rotten, will gradually unwind itſelf, and creep along the ground, until it finds a firm ſupport.

The Glyene apios, a plant of the Weſt Indian iſlands, is ſaid to grow towards a pole preſented to it, and vary its motion according as the fulcrum is changed. The Bryony ſhoots forth ſpiral tendrils till it completes three circles, then alters its courſe, and ſhoots as many more; and ſo alternately, in oppoſite directions, till it meets a ſolid body.

Though ſome might be inclined to infer, from the above circumſtances, the preſence of inſtinct and will in theſe plants, yet ſuch a concluſion, Mr Gahagan thinks, would be a very raſh one, as the only legitimate inference ſeems to be, that theſe plants are actuated by other ſtimuli than thoſe with which we are already acquainted.

Having, by the facts already ſtated, endeavoured to prove the exiſtence of irritability in plants, he next attempts to ſhow, that it is capable of the ſame changes of increaſe and diminution in the vegetable, as in the animal;

for which purpoſe, he proceeds to mention a few facts, from which the proper concluſions will, he thinks, place this point upon a footing equally clear and unqueſtionable. And, firſt, That the action of a powerful ſtimulus diminiſhes and deſtroys the irritability of the vegetable fibre, and ſo unfits it for that contraction upon which its life and functions depend, is amply proved, by the experiments of many ingenious men, particularly of the Abbé Bertholen and Duhamel. Theſe gentlemen found, that the Mimoſa pudica, which had been excited to contraction by a rough blaſt of wind, after ſome time recovered its former ſituation; and, though the wind ſtill continued, it did not again contract, till a ſtronger ſtimulus was applied.

The Abbé Bertholen found, that by a long and repeated electrization, the Mimoſa was completely deprived of its characteriſtic irritability, and became as inſenſible to the action of ſtimuli as any common plant. The Hedyſarum gyrans, as before-mentioned, was obſerved by Brouſſonet to contract leſs powerfully under the influence of the greateſt heat of the meridian ſun than at any other time, and to loſe

loſe its power of motion entirely, when fecundation had taken place.

The irritability of the Mimoſa pudica, and the Ciſtus helianthemum, was obſerved greateſt in the morning, leſs under the meridian ſun, and ſtill further diminiſhed in the evening, eſpecially of a hot day.

When ſpeaking of the ſtate of the fibre of plants, produced by the ultimate action of ſtimuli, Mr Gahagan does not omit to notice the ſleep of vegetables. This wonderful phenomenon of plants ſeems firſt to have been obſerved by Linnæus in the Lotus ornithopioides, and afterwards in many other plants. He thinks it neceſſary only to mention, that the ſleep of plants conſiſts in a certain form aſſumed by their leaves, generally on the approach of night; by which their external appearance is ſo much altered, as not eaſily to be recognized, even by thoſe well acquainted with them. This ſtate, from the following facts, ſeems to be produced by the previous action of ſtimuli.

Young plants, analogous to young animals, being endowed with the greateſt proportion of irritability, and therefore moſt liable to be

deprived of it by the action of ſtimuli, are moſt remarkable for this property of ſleep.

The ſleep of plants is more obſervable in Spring than at any other ſeaſon of the year, owing to the previous cold of Winter favouring the accumulation of irritability, which, as has been juſt now mentioned, becomes the more acceſſible to ſtimuli, and conſequently the eaſier of exhauſtion.

In ſome of the ſemifloſculoſi, the intervals of ſleep and waking are wonderfully regular. The Tragopogon, called in Engliſh *Go to bed at Noon*, and the Hibiſcus trionum, cloſe as ſoon as the ſun has paſſed the meridian. The Sida horologium expands at eleven in the forenoon, and ſhuts at two in the afternoon. This variety of interval ſeems entirely to depend upon the different degrees of irritability in the flowers; and this alternation of expanſion and cloſing ceaſes, as ſoon as the fecundation of the germ takes place.

Theſe phænomena of ſleep and waking in plants, cannot be explained on any principle of conſciouſneſs in them, as has been alleged, to guard themſelves againſt the injuries of cold and darkneſs; for they are obſerved to take

take place as well when the plant is conjoined to darkneſs as when expoſed to light, and in a hot-houſe the ſame as in the open air.

In addition to what has been already ſaid, little, he thinks, is neceſſary to prove, that, by the ſubtraction of ſtimuli, irritability is increaſed; and, in proportion to its accumulation, is more eaſily acted on and exhauſted. The effects of increaſed irritability in the animal fibre, he obſerves, is well known in thoſe afflicted with ſcurvy, or in thoſe who have ſuffered much from blood-letting, or other evacuations; in whom ſtimuli, which, in health, would ſcarcely produce any ſenſible effect, will operate moſt violently.

In that ſtate of the body, too, induced by hunger, the effects of a full meal are ſufficiently known, as are alſo thoſe of heat, in a body apparently frozen to death.

Whether light, according to the opinion of Monſieur de la Metherie, has any influence in producing the green colour of plants, in the manner laid down by him, viz. by a chemical evolution of pure air, Mr Gahagan conſiders as a diſcuſſion in ſome degree foreign to his ſubject: But he thinks he may maintain, as a matter of un-

doubted certainty, that, in all caſes whatſoever, light acts upon plants as a uniform and eſſential ſtimulus, and that upon its abſtraction depend many diſeaſes characteriſtic of increaſed irritability: One, in particular, merits attention, called by the French *ehotement*, for which we have no appropriate term in our language. It conſiſts chiefly in the want of the green colour, and other ſenſible qualities of plants. It may be obſerved, that as, in animals, the ſubtraction of heat, by interrupting the balance which ought to ſubſiſt in the ſyſtem, between the powers excited and thoſe exciting, will induce a ſtate reſembling ſleep; ſo, in ſome plants, the removal of light will occaſion ſleep at any hour; diminiſhed action being the conſtant conſequence, in both, of a too great, or a too ſmall ſupply of irritability, beyond a certain range.

It appears, Mr Gahagan obſerves, by ſome experiments made here, to which he has himſelf been witneſs, that the growth of plants, to which heat and cold were alternately admitted, was more rapid, than of thoſe to which a more uniformly warm temperature was applied.

During

During the Winter, from the abſence of heat, and in a great meaſure light alſo, plants remain in a ſtate of torpidity, analogous to the hibernation of animals. The motion of the fluids is almoſt at a ſtand; nutrition goes on in a languid manner; and, as in the Bear and other arctic animals, the freezing hand of Winter almoſt ſuſpends the functions of life. But, on the return of the genial rays of Spring, the increaſed irritability, occaſioned by the previous cold of Winter, now comes to manifeſt itſelf; the growth of the plant is ſudden and rapid; its fluids are propelled with inconceivable force; and in proportion to the coldneſs of the climate, and conſequently to its increaſe of irritability, the evolution of the plant is quick; as is inſtanced in Barley, which in this country requires 120 days for its ripening, but in Lapland arrives at maturity in 58.

The action of cold upon the Mimoſa, according to the experiments of Monſ. Duhamel, and the effects following the tranſplantation of vegetables from poor to rich ſoil, may be referred to the ſame head.

The *ergot*, or ſpur, a diſeaſe to which the rye, and other of the gramineous plants in the

diſtrict of Solagni in France are liable, ſeems to be analogous to ſcurvy in the human body, depending entirely on the abſtraction of the neceſſary ſtimuli; as, by the Abbé Teſſiere, this diſeaſe was diſcovered to be entirely owing to the poverty and humidity of the ſoil.

Having, as he thinks, by theſe facts eſtabliſhed the exiſtence of irritability, and the laws by which it is governed in plants, the author next proceeds to ſhow, that the functions of vegetables, viz. germination, nutrition, propulſion of fluids, perſpiration, abſorption, reſpiration, and generation, entirely and completely depend upon this principle, and are influenced by every modification or change to which it is liable. But, from the limited nature of our work, we cannot give the whole of his arguments upon theſe different points.

The firſt motion of the corculum, ſays he, in the ſeed, is excited by the application of certain ſtimuli; which ſtimuli are air and moiſture. The nutrition of plants ſeems to depend entirely upon the power of abſorption, with which the leaves and roots are particularly endowed. Air, water, and light, are here both the objects of nutriment, and the exciting

citing powers. This he proves from the experiments of Boyle, Van Helmont, Duhamel, Hales, Bonnet, and Ingenhouſz, in refutation of the opinions which held, that oil, ſalts, and elementary earth, were eſſential for this purpoſe.

The motion of fluids in plants, Mr Gahagan thinks, is explicable upon no other ground than that of irritability. A variety of opinions have been entertained with regard to the motion of ſap in plants; ſome ingenious men ſuppoſing it performs a circulation ſimilar to that of the blood in animals; whilſt others deny this, and aſſign only the ſimple motion of aſcent to it. However this may be, the velocity with which the ſap aſcends, as proved by Dr Hales, through the ſtem of a vine in the bleeding-ſeaſon, is truly wonderful; this gentleman having found it five times greater than that with which the blood paſſes through the crural artery of a horſe. Various hypotheſes have been offered to account for this; the moſt wild and extravagant of theſe, in our author's opinion, is that which ſuppoſes ſuch aſtoniſhing velocity can be performed by the trifling and inconſiderable force of capillary attraction. Is it poſſible to conceive, that veſſels tranſmitting ſo great

great a quantity of fluid in ſo ſhort a time, can have that degree of diameter only which in capillary tubes is capable of producing the effect?—How does it happen, that the ſap flows in greater quantity, and with more force, in the Spring than in the Summer, while the number and ſize of theſe veſſels are not diminiſhed, and the heat (to which alone ſome have attributed the ſap's motion) is increaſed? Beſides, capillary tubes, when broken acroſs, do not pour out their contents; becauſe the aſcent or motion of fluids in them, ſeems to depend upon the attraction of that ring immediately above the ſurface of the fluid. Beſides, this attraction muſt ceaſe, according to the laws of gravity, long before the fluid can arrive at the top of tall trees.

The true cauſes of this variation of force in the aſcent of the ſap, in the opinion of Mr Gahagan, depends upon the various proportion in which, at theſe different ſeaſons, irritability is preſent in the plant. From the previous accumulation during the Winter, it is moſt abundant in Spring; from which time it continues gradually to diminiſh, by the action of ſtimuli, till at length it ceaſes to be acted on at all;

all; which takes place about mid-ſummer, and is marked by the falling of the ſap.

If capillary attraction be inſufficient to account for the motion of the ſap, ſtill leſs will that or any other mechanical action account for the production and motion of the proper juices of plants. It muſt be perfectly evident, upon the ſlighteſt conſideration, that theſe juices are formed by ſecretion from the ſap, which no perſon will venture to aſcribe to any mechanical agency whatever.

It is unneceſſary here to dwell an inſtant upon the aſſimilating power which vegetables poſſeſs, or to point out the obvious and complete analogy which it bears to the ſecretion of animals. The experiments of Hales, Duhamel, Bonnet, and other ingenious vegetable phyſiologiſts, will, the author thinks, fully ſatisfy thoſe to whom doubts may occur on this point.

Perſpiration and abſorption are no leſs manifeſt in plants, than thoſe functions we have already mentioned. Electricity was found by the Abbé Nollet, and Monſ. Jallabert, to increaſe moſt powerfully the perſpiration of vegetables. Heat, every perſon muſt know, from Hales's experiments, produces the ſame effect.

For

For the proof of air-veſſels exiſting in plants, and anſwering as organs of reſpiration, Mr Gahagan reſorts to the experiments of Ingenhouſz and Malphighi, and alſo for the effects of the different airs upon them, viz. inflammable, phlogiſticated, and fixed.

The direct impulſe of the rays of light, ſeems to be neceſſary to enable plants to change foul into reſpirable air, without which they rather contaminate than purify the circumambient air. Hence, ſays the author, we ſhould admire the goodneſs and wiſdom of the Creator, in having deprived the greater number of plants of their leaves during the Winter, when, from the weaker influence of the rays of light, and the diminiſhed proportion of the preſence of the ſun above the horizon to that of its abſence, the noxious influence of vegetable reſpiration would render the air totally unfit to ſuſtain animal life.

Beſides the functions of plants already enumerated, they have a power, analogous to animals, of generating heat; as is proved by the experiments of Ingenhouſz and the ingenious Mr Hunter: which power the author, by many arguments,

arguments, endeavours to prove, depends upon irritability.

From the whole of theſe facts taken together, the author draws the following concluſions:

1*ſt*, That the only functions which do not ſeem to be common to vegetables with the animal kingdom, are thoſe which reſult from the preſence of a brain and nervous ſyſtem, viz. ſenſation, thought, and voluntary motion.

2*d*, That ſince plants poſſeſſed of irritability, but without a brain and nerves, exerciſe moſt of the functions of vitality, it is probable, theſe functions in animals are equally independent of nervous energy.

Concerning the above concluſions we ſhall make no obſervations, but leave our readers to judge for themſelves; and indeed it would perhaps be unfair to form any decided opinion, till the doctrine be delivered to the public at full length. We may only obſerve, that it naturally ſuggeſts to us the very great fluctuation of medical theories. At preſent, among ſeveral of the moſt ingenious ſtudents at this place, almoſt every phænomenon of the living

living body, both in a ſtate of health and diſeaſe, is aſcribed to irritability, conſidered as a primary eſſential property of the muſcular fibre, and altogether independent of the nervous power.

Not long ago a doctrine was introduced here, and became even faſhionable among ſome ingenious ſtudents, which conſidered the term *irritability* as being a word without a meaning; and irritability itſelf as having really no exiſtence. All the phænomena which philoſophers in general have aſcribed to it, were attributed to what was called *excitability*, which was conſidered as an indiviſible whole, exiſting equally at all times over every part of the ſyſtem: And from excitement being either increaſed or diminiſhed, all diſeaſes were explained. Thus, Dropſy was aſcribed to one degree of diminution, Fever to another, Epilepſy to a third, Palſy to a fourth, and the like. Hence theſe affections were conſidered as being in reality only different degrees of the ſame diſeaſe. But the abſurdity of this doctrine could hardly fail to be ſelf-evident to any one converſant in actual practice, who muſt have ſeen every different degree of diminiſhed excitement

citement or of debility in each of theſe diſeaſes, without even the ſlighteſt appearance of any of the others.

The ſyſtem to which we have above alluded, is very different from that juſt mentioned, nay, in moſt particulars, very oppoſite to it. It alſo, however, attempts to ſimplify medicine. But how far it will be found, either in part or in whole, founded on truth, muſt be determined by the teſt of candid obſervation, after the doctrine itſelf is fairly in poſſeſſion of the public.

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We have been favoured with the following obſervations, by an ingenious and learned friend in London.

On examining the lungs of people who had died of pulmonary conſumption, I have always found tubercles, but in ſome caſes no vomicæ. In ſome inſtances, it appeared that patients lived till the lungs were ſo deſtroyed by vomicæ, that

that apparently not a twentieth part of them were able to perform the function of reſpiration; and on good authority I can affirm, that, on the diſſection of one caſe, the whole of theſe viſcera were found wanting, nothing remaining but the external membrane which covers them. In that caſe, the pleura adhered to the whole cavity of the thorax. On theſe occaſions, the cauſe of death, it will readily be allowed, is clear. But, in other caſes, I have found only tubercles, or a few vomicæ, and the greater part of the lungs ſeemingly fit for reſpiration. Hence it is plain, that, in this diſeaſe, death is not ſolely occaſioned by a certain degree of diſeaſe, conſiſting in tubercles and vomicæ of the lungs. In nine inſtances of ten, where vomicæ have been preſent, I have found them chiefly, and, in ſome caſes, only, in the ſuperior part of the lungs; where they were ſometimes extended to the pleura covering them under the clavicles. Uſually, there is a firm adheſion between that part of the lung, immediately under the membrane of which vomicæ are ſituated, and the pleura lining the cavity of the thorax. Frequently, the matter of the vomicæ deſtroys the pleura, both

of

of the lungs and of the cavity of the thorax immediately over it; nay, in particular caſes, it even erodes the intercoſtal muſcles; ſo that it would ſeem as if a ſpontaneous cure were attempted, by the matter of vomicæ deſtroying the parts between their original ſeat and the ſkin. I was informed by a very experienced practitioner, that, in one caſe which fell under his obſervation, a tumour was obſerved externally on the thorax, every time the patient inſpired. The caſe being apparently deſperate, unleſs by a diſcharge of the matter outwardly, and being at the ſame time attended with excruciating pain, an opening was made into the tumour with a lancet, from which a great quantity of matter flowed, and the patient at laſt recovered.

In a caſe of hydrocephalus internus, which occurred in a boy about the 10th year of his age; on diſſection, the cranium, which was of a preternatural ſize, the ſutures being at a diſtance from each other, was found exceedingly thin and tranſparent: the whole water was lodged in the lateral ventricles, and amounted in quantity to about ten ounces. In the ſubſtance of

the cerebellum there were found three round tumours, each about the ſize of a hazel-nut.

The new bitter bark, lately imported from Anguſtura, is found to cure the intermittents of this country. The tincture of it is diſcovered to be an admirable and agreeable ſtomach medicine.

On the diſſection of a man, who evidently died from the violence of the ſymptoms in an acute rheumatiſm, no morbid appearances were diſcovered in the brain, the lungs, the heart, or other vital parts; but, on examining the joints which had been moſt pained, a collection of pus was found within them, and a thickening of the ligaments. This was a deciſive proof, that the rheumatiſm does ſometimes terminate in ſuppuration. Perhaps, if the enquiry were oftener made, ſuch ſuppuration would be frequently found.

A patient in the 35th year of his age, laboured under an anaſarcous dropſy, and being a drinker of porter and gin, his diſeaſe was ſuppoſed to proceed from hard drinking. He had, at times, a very irregular and intermitting

pulſe.

pulſe. An eryſipelatous fever ſupervened, of which he died. On diſſection, no internal inflammation was found; but a tumour was diſcovered in the left ventricle of the heart, ſupported by three peduncles of fleſhy ſubſtance, which grew to the heart. This was admitted to be a real polypus by ſome learned anatomiſts, who had before believed there was no ſuch diſeaſe.

Ulcerations from the venereal diſeaſe ſometimes take place in parts in which they are not ſuſpected. A man complained of a ſenſe of ſoreneſs referred to the trachea. He was hoarſe, and had a particular ſound in his voice, and a ſlight difficulty of deglutition. This was ſuppoſed to be ſome organic diſeaſe of the trachea; and remedies, with a view to its removal, were tried in vain, both externally and internally. At laſt, from a mere conjecture of the poſſibility of venereal ulceration, mercury was exhibited internally, and the patient ſoon recovered his natural voice, and was free from complaint.—A woman had her tongue covered with ſmall veſicles, which, burſting, left ulcerations, ſoon extending rapidly, ſo as

to form deep large cancerous-looking ſores, and to threaten a ſpeedy deſtruction of the whole organ. The caſe was ſuppoſed to be cancerous; but, if ſo, there was reaſon to believe it would be increaſed by mercury; and, if venereal, which, however, was thought improbable, it would be cured by it. Mercury was exhibited, calomel being taken to the extent of three grains every day. After ſhe had taken only three or four doſes, the ulcers appeared of a much leſs malignant aſpect; and in a few days they were entirely healed.

In a caſe of hepatitis, the antiphlogiſtic plan, viz. blood-letting liberally, purging and bliſtering, and at the ſame time mercury uſed externally, and given internally, ſo as to ſalivate, were employed. The patient was reſtored to health; and there was great reaſon to believe, that, without this treatment, ſuppuration would have happened.

The yellow reſin brought from Botany Bay appears to be a variety of the benzoin.

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An ingenious correſpondent in the Iſland of Grenada, has favoured us with the following extraordinary account of the ſtate of the pudendum of a female, imported into that iſland from Africa.

A ſtout young athletic negro driver, having made choice for his wife of a neat young negro girl, juſt brought out of a cargo, with equal rapture and vigour, attempted the completion of hymeneal bliſs, but without ſucceſs. The flattering opinion of virginity reconciled him to diſappointment on his firſt eſſay; but a ſecond and third being equally fruitleſs and mortifying, from a conſciouſneſs of his own ability, he was led to examine the parts, and with aſtoniſhment informed the manager, that his wife was neither woman nor man. This intelligence the manager communicated to my partner and me; and, ſympathiſing tenderly

derly with the diſappointed huſband, he wiſhed to know if any thing could be done.

Upon examination, we were aſtoniſhed to find hardly a trace of clitoris, nymphæ, or even labia pudendi. The parts were as flat and as ſmooth as the palm of my hand. Upon more narrow inſpection, a cicatrix could be traced, from the mons veneris down to the perinæum. At the lower end of this cicatrix, a ſmall hole was diſcovered, ſcarcely large enough to admit a common probe. Through this opening, we were witneſſes to her making water, guttatim; and we were informed that ſhe menſtruated in the ſame manner.

As we found the obſtruction to conſiſt in a ſimple adheſion of the integuments, being able to paſs the probe up higher than the urethra, we judged it proper to divide the cicatrized parts, for the purpoſe of facilitating the natural diſcharges, which, confined as they evidently muſt be, in the obſtructed paſſage they now had, particularly menſtruation, might have occaſioned the moſt ſerious evils.

Having ſecured the woman, in the ſame manner as is practiſed for the operation of lithotomy, a grooved probe was introduced, on which

which the integuments were divided, as high up as it was thought proper to go. But it was afterwards found, that the opening was ſtill ſmall; and there was reaſon to believe, that it would become more ſtraitened and rigid when fully cicatrized. Another inciſion was therefore made downwards, for about a quarter of an inch; and proper dreſſings were applied to keep the parts from cloſing.

Upon viſiting her ſome days afterwards, we found, that little attention had been paid to the directions given, and that the parts had begun to coaleſce. We then again dilated both upwards and downwards, to prevent any unfortunate event in caſe of pregnancy; a condition, which there was reaſon to expect might occur.

In labour, there would be the greateſt dread of danger, from the rigidity of the parts when cicatrized, and their want of dilatability. On this ground, our advice had been rather againſt giving the means of coition, which might prove fatal to her. But her entreaties, as well as thoſe of her huſband, and repeated attempts which he had lately made, notwithſtanding the vigilance of thoſe to whom ſhe was entruſted,

rendered it now a matter of prudence to dilate as much as poſſible. But, on healing, the parts coaleſced conſiderably, ſo as to make the opening much ſmaller than was intended. From this reaſon, or perhaps from caprice, ſhe was afterwards deſerted by her huſband; upon which ſhe fell gradually into a ſtate of melancholy, and died a few months after.

Her own account of this phænomenon, corroborated by many of her nation, was, that when a child, ſhe underwent a circumciſion, practiſed in ſome parts of the coaſt of Africa. Her mother died, ſoon after the operation was performed, and no proper attention was beſtowed upon her. In this way, it is reaſonable to ſuppoſe, that the above coaleſcence may have been formed.

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With the following well authenticated inſtance of four children delivered at one birth, we have been favoured by an ingenious gentleman,

tleman, Mr J. Spencer, from the Iſland of Dominica, who had himſelf an opportunity of ſeeing both the mother and children.

A negro woman, named Benebah, was brought from Africa to Dominica in the year 1782, and ſoon after was married to one of her own countrymen. By him ſhe had one child. But, this huſband dying; ſoon after that, ſhe married another of her countrymen, with whom ſhe lived for ſeveral years without having any children. But at length ſhe became pregnant; and had no other reaſon for ſuſpecting a plurality of children, excepting an uncommonly large ſize. On the 22d of February 1789, when, according to her own computation, ſhe had been about nine months pregnant, ſhe was ſeized with labour-pains; and, by the aſſiſtance of a negro woman on the eſtate to which ſhe belonged, who officiated as midwife, ſhe was delivered of a boy, to appearance healthy, and of the ordinary ſize. But no placenta coming away, and marks of pregnancy ſtill continuing, an accoucheur was ſent for, who, about 24 hours after the birth of her firſt child, delivered her of three girls, all of the

the ordinary ſize; after which, he extracted a placenta of an enormous ſize, which he computed would have weighed about fifteen pounds. After this ſhe had a very good recovery, and was able to walk about by the eighth day. She gave ſuck to all her four children, alſo employing, however, with them at the ſame time a good deal of ſpoon meat. Mr Spencer ſaw them when about five months old. At that time they were all ſtout children, and, as well as their mother, in perfect health.

When Benebah was delivered of theſe children, ſhe was about the 30th year of her age. She meaſured five feet two inches in height. Her huſband, who was in his 35th year, was a ſtout well-made man, about the middle ſize: and it may perhaps be mentioned as a ſingularity, that both ſhe and her huſband were twins.

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An ingenious gentleman, who, during the late war, officiated as ſurgeon's mate to a Britiſh regiment ſtationed for ſome time on the Moſquito Shores, informs us, that the natives of that part of America, cure, with great ſucceſs, dyſenteries, to which they are very liable, by means of a vegetable remedy, diſtinguiſhed by the name of Flux Bark. He has not been able to furniſh us with any accurate botanical deſcription of the tree which produces this bark; but it grows, he tells us, in great abundance in the low ſandy ſavannahs about Black River, Moſquito Shore, and is in general from ten to fifteen feet high.

In the year 1785, when ſome Britiſh troops were ſent from Jamaica to that part of the coaſt of America, they were much troubled with dyſentery, which carried off great numbers of them. This was the caſe, till one of the natives informed the ſurgeon of the uſe of the

the bark above-mentioned, as a remedy for that diſeaſe; and after they began to employ it, not a ſingle man was loſt of that affection. The form under which it was chiefly employed, was that of decoction. This was prepared, by boiling an ounce of the bark with three pints of water, over a gentle fire, to the conſumption of one pint. This decoction was taken to the quantity of a wine-glaſsful every two hours. When firſt taken, it in general acts as a purgative, and was often found to cure the diſeaſe merely by itſelf. But it commonly anſwered beſt, after a ſaline purgative had been premiſed; and when the inteſtinal canal has been previouſly cleared, it operates as a ſtrong aſtringent. Beſides the advantages derived from it in dyſenteries, it was alſo found to be very uſeful againſt the complaints ariſing from worms, and in the cure of intermittent fevers.

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The Humane Society of London have lately publiſhed and diſtributed the following directions for the recovery of the apparently dead by drowning, and the various kinds of ſuffocation.

I. The reſtoration of heat is of the greateſt conſequence to the return of life. When, therefore, the body is taken out of the water, the clothes ſhould be ſtripped off: or, if naked at the time of the accident, it muſt be covered with two or three coats, or a blanket, or any thing anſwering the purpoſe that can be moſt eaſily procured. The body ſhould then be carefully conveyed to the neareſt houſe, with the head a little raiſed. In cold and damp weather, the unfortunate perſon ſhould be laid on a bed, and in a room that is moderately heated: in Summer, on a bed expoſed to the rays of the ſun, with the windows open, and not more than ſix perſons admitted: a greater number may retard the return of life.

The

The body is to be well dried with warm cloths, and gently rubbed with flannels ſprinkled with rum, brandy, gin, or muſtard. Fomentations of either of theſe ſpirits may be applied to the pit of the ſtomach with advantage. A warming-pan, covered with flannel, ſhould be lightly moved up and down the back: Bladders and bottles filled with hot water, heated bricks, or tiles wrapped up in flannel, ſhould be applied to the ſoles of the feet, palms of the hands, and other parts of the body.

II. Reſpiration will be greatly promoted by cloſing the mouth and one noſtril, while with the pipe of a bellows you blow into the other with ſufficient force to inflate the lungs. Another perſon ſhould then preſs the cheſt gently with his hands, ſo as to expel the air. Thus the natural breathing will be imitated. If the pipe be too large for the noſtrils, the air may be blown in at the mouth. Blowing the breath can only be recommended when bellows cannot be procured.

III. The bowels ſhould be very ſoon inflated with the fumes of tobacco, and repeated three

or four times within the firſt hour; but if circumſtances prevent the uſe of this vapour, then clyſters of this herb, or other acrid infuſions with ſalt, may be thrown up with advantage. The fumigating machine is ſo much improved, as to be of the higheſt importance to the public; and if employed in every inſtance of apparent death, it would reſtore the lives of many of our fellow-creatures, as it now anſwers the important purpoſes of fumigation, inſpiration, and expiration.

IV. Agitation has proved a powerful auxiliary to the other means of recovery. One or more of the aſſiſtants ſhould therefore take hold of the legs and arms, particularly of boys, and ſhake their bodies for five or ſix minutes. This may be repeated ſeveral times within the firſt hour. When the body is wiped perfectly dry, it ſhould be placed in bed between two healthy perſons, and the friction chiefly directed in this caſe to the left ſide, where it will be moſt likely to excite the motion of the heart.

V. When theſe methods have been employed for an hour, if any brew-houſe, bake-houſe,

houſe, or glaſs-houſe be near, where warm grains, aſhes, lees, &c. can be procured, the body ſhould be placed in any of theſe, moderated to a degree of heat very little exceeding that of a perſon in health. If the warm bath can be conveniently obtained, it may be advantageouſly uſed in conjunction with the earlieſt modes of treatment.

VI. Electricity ſhould be very ſoon employed, as it will increaſe the beneficial effects of other means of recovery on the ſyſtem. "The electrical ſhock, ſays Mr Kite in his Eſſay on the Recovery of the apparently Dead, is to be admitted as the teſt or diſcriminating characteriſtic of any remains of animal life; and, ſo long as that produces contractions, may the perſon be ſaid to be in a recoverable ſtate: but when that effect has ceaſed, there can no doubt remain of the party being abſolutely and poſitively dead."

VII. If ſighing, gaſping, convulſions, or other ſigns of returning life appear, a teaſpoonful or two of warm water may be put into the mouth; and if the power of ſwallowing

ing be returned, a little warm wine, or brandy and water, may be advantageouſly given. When this gradual approach towards recovery is obſerved, and breathing and ſenſibility returned, let the perſon be put into a warm bed, and, if diſpoſed to ſleep, as is generally the caſe, give no diſturbance, and he will awake after a ſhort time almoſt perfectly recovered.

The above methods are to be uſed with vigour for three or four hours; for it is a vulgar and dangerous opinion to ſuppoſe, perſons are irrecoverable becauſe life does not ſoon make its appearance; an opinion that has conſigned an immenſe number of the ſeemingly dead to the grave, who might have been reſtored to life by reſolution and perſeverance.

Bleeding ſhould never be employed in ſuch caſes, unleſs by the direction of one of the medical aſſiſtants, or ſome other reſpectable gentleman of the Faculty, who has paid attention to the ſubject of ſuſpended animation.

On the firſt alarm of any perſon being drowned, or accidentally ſuffocated, let hot water, flour of muſtard, warm blankets, hot flannels, flat bottles filled with hot water, a heated warming-pan, bellows, brandy, hartſ-

horn drops, and an electrifying machine, be inſtantly procured. Theſe articles being in readineſs, and immediately employed, may be the means of reſtoring many uſeful and valuable lives.

The common people will often reſtore life by purſuing the plans now recommended: but if gentlemen of the Faculty can be obtained, their aſſiſtance ſhould be immediately requeſted, as their ſkill will lead them judiciouſly to vary the methods of treatment. And, in a variety of accidents, many more lives will be reſtored to the community and their families.

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It may not be improper in this place to obſerve, that in the Journal de Médecine for June, a deſcription is given of an inſtrument for inflating the lungs, invented by M. Gorcy, phyſician to the Military Hoſpital at Neufbriſack. While this inſtrument is of ſuch a conſtruction that it may be uſed by any one with the

the greateſt eaſe and facility, it is alſo better adapted for the purpoſe than any thing that has been yet propoſed; becauſe, while it is well fitted to imitate natural reſpiration, it has alſo the effect, both of introducing pure air, and of abſtracting that which has been vitiated in the lungs.

We could not pretend, without the aſſiſtance of an engraving, to convey to our readers any accurate idea of it. We may only obſerve, that the apodopnic bellows, as they are ſtyled, from the purpoſe for which they are intended, that, viz. of reſtoring reſpiration, conſiſt of a double pair of bellows, which are completely ſeparated from each other by a middle partition. Each pair of bellows is provided with two valves, to determine the openings at which air can alone be admitted when they are expanded, and expelled when they are cloſed. They are furniſhed with a flexible tube, which is introduced into one of the noſtrils. The other noſtril and the mouth being carefully ſhut, when the double bellows are expanded, the inferior one is neceſſarily filled with atmoſpheric air, drawn in at the valve in the middle of it; and the ſuperior one is neceſſari-

ly filled with air from the lungs, drawn in at the valve, placed where the extremity of the flexible tube is conjoined to the bellows. When the bellows are closed, the air in the inferior one, which had been drawn from the atmosphere, will neceſſarily be forced into the lungs; and that in the ſuperior one, which had been drawn from the lungs, will neceſſarily be expelled into the atmoſphere. Thus, by the alternate play of the double bellows, the lungs will be alternately filled with pure atmoſpheric air, and emptied of that air, when vitiated, in their air veſicles, in the ſame manner as in natural reſpiration. In uſing the inſtrument, care ſhould be taken not to be too violent, but to imitate, as perfectly as it can be done, the natural reſpiration.

By a ſmall additional apparatus, which M. Gorcy alſo deſcribes, this inſtrument may alſo be employed for the introduction of dephlogiſticated air into the lungs, in place of common air; and if the opinions of Dr Goodwyn be well founded, from this circumſtance great advantage may be derived. This is effected by ſupplying the inferior bellows, not from the atmoſphere, but from a bladder filled with dephlo-

dephlogiſticated air, adapted to the valve in its middle.

In the conſtruction of this inſtrument care ſhould be taken, that each of the double bellows be of ſuch a ſize, as to contain the medium quantity of air commonly introduced and expelled at each reſpiration; that is, about twelve cubical inches.

* * * *

With the following obſervations on the recovery of thoſe apparently dead, which probably have already appeared in ſome of the London newſpapers, we have been favoured by an ingenious correſpondent in London.

No premature Interment to be dreaded.

THE late writers on the practice of reſuſcitation do not ſhew themſelves impreſſed with an idea of the ſtate of inſenſibility of a body

that is *to all appearance dead;* the diſtinctive ſign of which is, that, by no attempt whatever, an indication of pain can be diſcovered in any part, by pinching, ſcratching, pricking, cutting, ſcarifying, or cauteriſing. Unaware, therefore, of the neceſſity of immediately calling forth the firſt ſigns of life, by a known and ſucceſsful method, without which no other attempt proves efficacious, they run out (taking a degree of remaining ſenſation for granted) in commendation of ſpeculative means, furniſhing ſubjects of experiment only to profeſſional men, while they keep the matter wrapped up in myſtery, reſerving the treatment to themſelves, and debarring the common claſs of men, who, all over Europe, have proved the moſt ſerviceable in the cauſe, from meddling with it at all.

Whether the diſcovery of *the nobleſt of antidotes to death itſelf*, ſo highly extolled in the Gentleman's Magazine and Morning Chronicle, the application of electricity, belong to *Baron Hupſch* at Cologn, or, by priority, to the *Manager* of the London Humane Society, is of little moment, while neither of them adduce the leaſt proof of its efficacy from trial, when

when other means failed. The Baron recommends it as *ſimple, and eaſy to put in practice*, but gives not the leaſt hint of his mode of proceeding; nor does he advert to the difficulty of obtaining an apparatus, its great price, the ignorance of moſt men how to apply it, and other circumſtances obſtructive to its uſe. What is moſt to be feared from the trial he wiſhes univerſally to be made, is, that it may prove as dangerous in loſs of time, as the leaving of a corpſe to go in queſt of a medical aſſiſtant.

In regard to *premature interments*, though painted with all their attending terrors, it may ſafely be ſaid they are not to be apprehended. There has not appeared, for half a century, one well-atteſted proof of the burial of a perſon in whom the leaſt ſpark of life remained; nor is there room to believe it can happen. A corpſe is either abſolutely dead from immediate diſeaſe, or it is brought to that ſtate by the prejudiced way of acting of the various attendants of the ſick, who draw away the pillow at the appearance of death, and ſtrip them too ſoon; officious to ſhow a ſtraight and well-looking dead body. This latter cauſe of ſe-

curity, diſtreſſing to all humane feelings, yet too often given, cannot be enough reprobated: It can, however, readily be removed, and another way of proceeding introduced, by ordering trials to be made upon every perſon, immediately at the appearance of death, to decide whether it be real or not. That their ſtate can thus be aſcertained beyond a doubt, will inſpire confidence in thoſe who may yet labour under the old apprehenſion; and they will be led to inſiſt upon its being done, when they are aſſured that it can be performed by nurſes and ſervants, and that it conſiſts in a few means, eaſy to be remembered, that have often been publiſhed by Dr Johnſon, from the ſucceſsful practice followed in Holland, where, out of any given number of patients, more have been recovered than in any other country. They are brought within the compaſs of ſo few lines, that it cannot prove tedious to repeat them here.

"A body under the appearance of death, "is to be rubbed all over for a length of time, "with ſoft and dry flannels;—to be moved a-"bout with the blanket upon which it lies, to "break

" break its deadly reſt. Its parts moſt ſenſible
" while alive, are to be chafed with diluted
" ſpirits of hartſhorn, or ſal-ammoniac:—Theſe
" ſpirits are to be held to the noſe, which oc-
" caſionally is to be tickled with a feather.—
" Air is to be blown into the mouth or no-
" ſtrils, and aromatic vapour up the funda-
" ment."

A treatment ſo plain, ſo inexpenſive, ſo eaſily practicable, anſwers the great end of reſtoring life in all practicable caſes: Its efficacy is deciſive in thoſe that regard interment; and in all others it is ſafer, and therefore preferable to new and ſpeculative methods; in the trials of which, as above hinted, a life may be loſt, that would have been ſaved by the immediate adminiſtration of theſe means; which alone have proved effectual; which deſerve the name of *ſpecifics;* and of which it may be ſaid, nearly in the German baron's words, That *thoſe who know, and have not recourſe to them,* are acceſſory to the unfortunate perſon's death.

VERUS.

We

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We are informed, that an academy of the fine arts has lately been eſtabliſhed at Mexico, in Spaniſh America. The Director and Preſident is M. Solma, known to the world as an ingenious artiſt, by his elegant plates to Don Quixote, and by ſeveral other works.

* * * *

Dr James Anderſon of Madras, has publiſhed in that country, a collection of letters, by himſelf and others, on the ſubject of the culture of the cochineal inſect on the Coromandel coaſt, and the territories of Bengal. He thought at firſt that he had diſcovered the true cochineal inſect on plants that are natives of that country. But upon a careful examination it appeared, that

that although this was a true inſect of the Coccus tribe, it differed in ſeveral reſpects from the real cochineal, and that, in particular, it could not be made to yield the true ſcarlet dye to woollen ſtuffs, by the common proceſs of dyeing.

In proſecuting theſe enquiries, he has alſo diſcovered many other varieties of this claſs of inſects, no leſs than eight in all. Theſe, in the peninſula of India, are ſupported on different plants, particularly on the following:

1. The Coccus Chlocoon, or Kermes Choromandelenſis, is found on the Aira Indica.
2. The Coccus Oogenes, on the Phylanthus emblica, Hibiſcus populneus, &c.
3. The Coccus Irichodes, on the Pſidium guajava, Annona ſquamoſa, &c.
4. The Coccus Erion, on the Robinia mitis, Ficus Indica, Myrtus zeylanicus, &c.
5. The Coccus Micro-ogenes, on the Vitis vinifera, and Galega proſtrata.
6. The Coccus Koleos, on the Solanum melongena.
7. The Coccus Diacopeis, on the Citrus ſinenſis.
8. The Coccus Narcodes, on the Wodier.

Several

Several of theſe inſects promiſe to afford uſeful dyes; but none of them are nearly equal in brightneſs to the true cochineal. And although the moſt diligent ſearch was made through all the Britiſh provinces in India, not a ſingle plant could be found of the Cactus cochiniliferus of Linnæus, the Opuntia ſpinulis obtuſis of other botaniſts, the Nopal, as it is called in Mexico. At length, however, from the perſevering induſtry of Dr Anderſon, and the ſpirited exertions of thoſe who aſſiſted him, he obtained firſt from China a few plants of the true Opuntia, and afterwards, from the Cape of Good Hope, ſeveral plants of the Mexican Nopal. Theſe laſt he found to be in no reſpect different from the true cochineal Opuntia. Theſe Dr Anderſon cultivated in his own garden near Madras, and found that they proſpered very much. From his ſucceſs, from the favourable ſtate of the climate, from the ſurpriſing cheapneſs of labour, and from the habitual induſtry of the natives, the Directors of the Honourable Eaſt India Company concluded, that the culture of cochineal might be introduced into the Britiſh dominions in India. Accordingly, a piece of ground

ground has been incloſed, and a ſuperintendant, with proper aſſiſtants appointed, for eſtabliſhing a nurſery of Opuntia or Nopal plants, under the ſuperintendance of Dr Anderſon. Theſe, as well as live inſects, to be fed upon them when propagated to a ſufficient extent, are to be diſtributed among the natives. Thus there is reaſon to hope, that in no long time this valuable article may be obtained from our own ſettlements in India, much cheaper than we are at preſent ſupplied with it from other countries.

* * * *

Mr Philip Jones, of Charlotte-Street, Bedford-Square, London, by trade a ſtaymaker, who has of late been much and juſtly diſtinguiſhed for the cure of crookedneſs or diſtortions of the ſpine, on which ſubject he ſome time ago publiſhed an eſſay, was lately prevailed upon to viſit Edinburgh, with a view of giving his aſſiſtance in ſome caſes of this kind; and we are happy to ſay, that, in ſome of them,

them, the application of his machine has, hitherto at leaſt, been apparently attended with the beſt effects.

In the treatiſe to which we allude, Mr Jones offers many obſervations on the cauſes of diſtortion. This he aſcribes to a want of oſſific matter in the vertebræ, and to too great preſſure from the parts above the incurvation. He endeavours to ſhow, that the common modes of cure which have in general been practiſed, ſuch as the neck-ſwing, the ſcrew-chair, ringing the dumb bells, &c. are deceptive and miſchievous, and calculated rather to confirm, than to cure or alleviate the complaint. He contends, that in order to be of any real ſervice, it is neceſſary to take off the ſuperincumbent weight from the parts affected, by the eaſieſt and moſt gradual means poſſible; continuing this proceſs for a longer or ſhorter time, which will be determined by the ſtrength or weakneſs of the ſyſtem, and the quick or tardy exertions of nature. In proof that the apparatus which he makes and applies is productive of theſe effects, he relates a number of caſes, in many of which practitioners of the firſt eminence were concerned, and in which the due continuance of

its

its uſe was attended with the beſt effects. And, among other teſtimonies in favour of it, he gives the following, as delivered by the late Dr Hunter, in his lectures in the years 1776 and 1777.

"This mechanical contrivance not only takes off the ſuperincumbent weight, but extends the ſpine in a conſtant gradual progreſſion; and thus continued for a time, until, by a proper depoſition of oſſific matter into the mollified vertebræ, they become firm and compact bones. Hence, then, the ſubject will be made ſtraight, and remain in that ſituation: for there is a diſpoſition in nature always to help herſelf when oppreſſed, if ſhe be aſſiſted or relieved by art."

But although Mr Jones's book contains many teſtimonies of the advantages which have reſulted from his practice, yet it can hardly be conſidered as conveying any other uſeful information to the reader. He has indeed given ſeveral elegant engravings of diſtorted ſpines: but the value of his volume would have been much increaſed, had he alſo furniſhed us with an accurate figure and deſcription of his apparatus. With regard to it,

we

we may only obſerve, that it is very nearly the ſame with one long ſince accurately delineated and deſcribed by M. Le Vacher, in the Memoirs of the Royal Academy of Surgery of Paris *. But his apparatus, though demonſtrating much ingenuity and contrivance, could never be conſidered as introduced into practice, at leaſt in this country. And although Mr Jones may not have the merit of having made even any material improvement on M. Le Vacher's machine, yet he has at leaſt been the firſt, as far as we know, who has applied it with ſuch ſucceſs in actual practice in this country, as clearly to demonſtrate the benefit which may be derived from it.

Dr

* Nouveau moyen de prevenir, et de guerir la courbure de l'Epine. Par M. Le Vacher. *Vide* Memoires de l'Academie Royale de Chirurgie. Tome quatrieme, p, 596. 4to, Paris, 1768.

* * * *

Dr Adair Crawford of London, who has eminently diſtinguiſhed himſelf as a chemical philoſopher, has lately introduced into the practice of medicine the uſe of the muriated Barytes, or Terra ponderoſa muriata, as it is often called. In a letter to Dr Duncan, he gives the following account of it.

" I was led ſeveral years ago, by an attention to the ſenſible qualities of this ſalt, to conclude, that it would probably make a valuable addition to the Materia Medica. But I did not try it on any extenſive ſcale till laſt February. Since that time, I have given it in a great variety of caſes, and have found it a moſt efficacious remedy, in ſome of the moſt diſtreſſing maladies to which human nature is incident. My experience of its medical properties is not yet ſufficiently extenſive, to permit me to draw general concluſions with certainty;

but, from the effects which it has already produced, I have reaſon to believe, that if it be adminiſtered judiciouſly, and continued for a ſufficient length of time, there are few caſes of ſcrophula which will not yield to it.

"In a paper, which will in a ſhort time be inſerted in the Medical Communications of London, I have given a brief account of all the patients in St Thomas's Hoſpital, to whom I have exhibited it during the months of February, March, April and May; and from that account you will perceive, that ſcrophula has been ſubdued by it, after it had arrived at its laſt ſtage, and aſſumed its moſt malignant form. In many caſes of cancer, it acts as a palliative, and in two inſtances it has removed the diſeaſe.—The one was a cancerous affection of the noſe, and the other a large ulcerated cancer of the breaſt. But the cure in the laſt of theſe caſes was not to be aſcribed to the muriated Barytes alone; for the exhibition of this ſalt was joined with the external application of the dephlogiſticated marine acid, diluted with thrice its weight of water.

"The muriated Barytes has likewiſe been very ſucceſsful in cutaneous eruptions, and in old ulcers

ulcers of the legs; and I have reaſon to believe, that it will be a good auxiliary in dropſy.

" I have hitherto uſed a ſaturated ſolution of the ſalt in water, to which a little exceſs of acid was added. The doſe is from four to eight or ten drops, in any convenient vehicle, twice in the day. The vehicle which I have generally employed, was ſoft or diſtilled water. If it be given in hard water, it will be rendered inert.

" Its uſual effects are, an increaſe of the flow of urine, and an improvement in the appetite and general health. In ſome caſes it operates as a gentle laxative and diaphoretic; and, in a few inſtances, it has acted powerfully as a ſudorific. The principal objection to its uſe is, the difficulty of obtaining it pure. The ſpar from which it is extracted is generally found in lead mines, and is, for the moſt part, intimately intermixed with a variety of metallic ſubſtances; particularly with lead, iron, arſenic, and ſometimes with copper. I have, however, the ſatisfaction to inform you, that there is a very ingenious gentleman here, a Mr Cruickſhank, who has diſcovered a method of com-

pletely diſengaging it from heterogeneous mixtures, and of obtaining it in a ſtate of perfect purity. This gentleman ſupplies it for ſale to Meſſrs Payne and Crawford, chemiſts and druggiſts, N° 66. Leadenhall Street, London. It may not be improper to mention, that there is a mineral ſold for the aërated Barytes at Strontian in Scotland, which I have found to be a different ſubſtance from the true Terra ponderoſa. It appears to be a new earth, the properties of which have not yet been ſufficiently examined."

* * * *

The following account of the prizes diſtributed and propoſed at the Public Aſſembly of the Royal Society of Medicine of Paris, held in the Louvre on the 1ſt of September 1789, is extracted from their program, lately publiſhed.

PRIZES

Prizes Distributed.

I. The Society had propoſed, on the 11th of March 1783, as the ſubject of a prize of the value of 800 livres, the following queſtion:

Expoſer quelles ſont les maladies qu'on peut regarder comme vraiment contagieuſes; quels organes en ſont le ſiege ou le foyer, et par quels moyens elles ſe communiquent d'un individu à un autre?

None of the memoirs received having anſwered the expectations of the Society, they have, with regret, withdrawn this queſtion; recommending it however to the attention of phyſicians both native and foreign.

II. On the 28th of Auguſt 1787, the Society propoſed, as the ſubject of a prize of 600 livres, founded by the King, the following queſtion:

Determiner la nature du pus, et indiquer par quels ſignes on peut le reconnoitre dans les differentes maladies, ſur-tout dans celles de la poitrine?

Among the memoirs ſent on this ſubject, none has been conſidered as meriting the prize. But the Society have thought proper to diſtinguiſh a memoir which had for its epigraphe,

Fas ſit mihi viſa referre.

They conſidered the practical and experimental parts of this diſſertation as deſerving great praiſe, though not ſufficiently complete for reſolving the queſtion. This memoir was written by M. Cuſſon, Vice-Profeſſor of Botany in the Univerſity of Montpellier: and the Society have conferred upon him a gold medal, of the value of a jeton d'or (a gold counter, about five or ſix and twenty ſhillings in value). At the ſame time they have decreed, to propoſe the ſame queſtion again as the ſubject of a prize of 600 livres. The memoirs to compete for this, muſt be ſent to the Society before the 1ſt of December 1790.

III. The Society, deſirous of collecting all the knowledge acquired by experience concerning the artificial nurſing of new-born infants, and to preſent to the public on this ſubject a collection of facts which could not be contradicted,

contradicted, formed a program, which was read in the Public Aſſembly of the Society on the 12th of February 1788, and was tranſmitted to the Aſſociates and Correſpondents of the Society, enquiring of them,

Quel plan ils ont ſuivi, ou vu ſuivre, dans les eſſais d'allaitement artificiel, dont ils ont été temoins; quelle methode on a employée pour nourir les enfans, ſoit pendant qu'ils ſe portoient bien, ſoit pendant qu'ils etoient malades; quelles ont été leurs maladies; quel a été le reſultat de la mortalité, et à quelle cauſe on l'a attribué; ſi c'eſt à la nourriture artificielle même, ou à de cauſes qui lui etoient étrangères, tel que la maladie venerienne, l'entaſſement des enfans, ou le muguet?

This prize of 2000 livres, conferred by the beneficence of M. de Croſne, formerly Lieutenant-General of the Police, was to be diſtributed under the form of gold medals of different value, conferred upon the authors of the memoirs ſent for competition.

No program propoſed by the Society has ever fixed the attention of a greater number

of phyſicians. The Society have divided the memoirs received into four claſſes.

The memoirs referred to the *firſt* claſs, enriched with a great number of facts, preſent new views, intereſting compariſons, and happy reſults. They have the double merit of anſwering every part of the queſtion, and of reducing the whole to great order. Theſe memoirs amounted to four in number; and the Society have adjudged to each a gold medal of the value of 300 livres.

The firſt, intituled, *De recens natorum artificiali nutritione lucubratio*, and bearing for its epigraphe, *Beatus ille qui miſertus pauperis*, &c. was ſent by M. Iberti, Doctor of Phyſic, reſiding in Edinburgh.

The ſecond was ſent with the following epigraphe:

Heu miſerande nothe! amiſſa qui matre relictus,
Ubere ab externo vitia ſæpe bibis.

It was the work of M. Jurine, formerly Surgeon to the General Hoſpital at Geneva, and reſiding in that city.

The third, intituled, *Maniere nouvelle d'elever artificiellement les enfans nouveau-nés*, was ſent by

by M. Percy, Surgeon-major to the Diviſion of Flanders and Artois, and Aſſociate of the Royal Academy of Surgery.

The fourth was by M. Hervel, M. A. Surgeon to Monſieur the King's Brother at Mondoubleau.

The memoirs of the *ſecond* claſs, contain reſearches made with a great deal of care in thoſe countries where the artificial nurſing is much uſed; with an account of thoſe circumſtances which render that practice more or leſs happy. In theſe are to be found many judicious remarks, which prove, that the authors have attentively obſerved the different procedure of artificial nurſing. Theſe memoirs were five in number; and the Society have decreed to each of them a gold medal of the value of 100 livres.

The firſt of theſe memoirs has been ſent by M. Guegot-de-Traoulen, Phyſician at Ingrande in Lower Anjou;—the ſecond, by M. Dufau, Phyſician at Dax;—the third, having for an epigraphe, *Dum lactant mactant*, by M. Dufour, Phyſician at Noyon;—the fourth, by M. Degland, ſurgeon at Lille;—and the fifth, which had

had for an epigraphe, *Quibus tanto magis omnis obſervatio neceſſaria, quanto magis obnoxia offenſis infirmitas eſt,* by M. Strack, Profeſſor of Medicine at Mentz.

The *third* claſs comprehends memoirs in which the Society have remarked either peculiar reſearches on ſome one important point in the program, or a ſmall number of intereſting facts preſented with method. Theſe memoirs amounted to ſix in number; and the Society decreed to the author of each a gold medal of the value of a jeton d'or.

The firſt of theſe memoirs was ſent by M. le Chevalier de la Coudray, reſiding at Sables d'Olonne, and one of the Deputies to the States-General;—the ſecond, by M. Maſon, Surgeon at Sompuis in Champagne;—the third, by M. Le Brun, Surgeon at Vandœuvre;—the fourth, by M. Germignac, Phyſician near Uzerche;—the fifth, by M. Robineau, Surgeon at Dourdan;—and the ſixth, by M. Lambron, Surgeon at Orleans.

In the *fourth* claſs are arranged thoſe containing particular obſervations, the detail of which

which is curious and worthy of preſervation. The Society has decreed to make honourable mention of theſe diſſertations, which are ſix in number. The firſt was ſent by M. Bonin, Phyſician at Cliſſon in Brittany;—the ſecond was ſent from Caen, with the epigraphe, *Artem experientia fecit*, the author of which is invited to make himſelf known;—the third, by M. Sacombe, Knight of the Order of Merit;—the fourth, by M. Pallet, Advocate reſiding at Bourges;—the fifth, by M. Renou, Surgeon at Fougeres;—and the ſixth, by M. Moulet, Phyſician at Montauban.

IV. The Society having, ſome years ago, undertaken an enquiry concerning Epilepſy, had ſolicited their Correſpondents and Aſſociates to communicate their obſervations on that ſubject; Mr Ramel, Phyſician at Aubagne, has diſtinguiſhed himſelf by his zeal, by the aſſiduity of his correſpondence, and by new and intereſting details which he has communicated. His obſervations have been followed out with great preciſion for the ſpace of four years; a circumſtance which adds not a little to their merit, as we cannot be aſſured of

of the cure of an epileptic, till after the lapſe of a conſiderable ſpace of time. The Society, deſirous of giving a mark of acknowledgment to Mr Ramel, has adjudged to him a medal of the value of a jeton d'or. The Society has alſo been much ſatisfied with the obſervations ſent on the treatment of Epilepſy, by Meſſrs Thibaut of Dunkirk, Dufau of Dax, Lorentz of Scheleſtatt, Percy of Straſbourg, and Bagot of S. Brieux.

V. The Society is in the practice of diſtributing, at their public aſſemblies, prizes to the authors of the beſt memoirs ſent them upon Epidemic and Endemic diſeaſes; on the diſeaſes of Artiſans; on the Mineral Waters; and on the Meteorology and the Medical Topography of different cantons and provinces of the kingdom. Among the memoirs which the Society has received on this laſt ſubject, it has diſtinguiſhed five, to the authors of which, prizes have been decreed in the following order:

The firſt prize, a gold medal of the value of an hundred livres, has been decreed to M. Bagot, author of an Hiſtorical, Topographical, and Medical Deſcription of the dioceſe of S. Brieux,

S. Brieux, where he reſides. The four other prizes, each conſiſting of a gold medal of the value of a jeton d'or, have been adjudged to, 1. M. Coze, author of a Medical Topography of the province of Gaſcogny. 2. M. Moulenq, author of a Memoir on the Medical Topography of the city of Valence. 3. M. Carmoy, author of a Memoir on the Medical Topography of the city of Paray le Monial and its territory. 4. M. Luce, author of a Topographical and Medical Table of the city of Graſſe, and of its Hoſpital.

The Society have alſo reſolved to make honourable mention of the following memoirs on Medical Topography. 1. Of the city of Calais, by M. le Jau, phyſician there. 2. Of the town of Plombieres and its mineral waters, by M. Didelot, phyſician at Remiremont. 3. Of the city of Orange in Dauphiny, by M. Brar de la Coſſaye, phyſician there. 4. Of Baune in Burgundy and its hoſpital, by M. Morelot, ſurgeon there. 5. Of the city of Lamballe and its environs, with a deſcription of the endemic and epidemic diſeaſes obſerved there, by M. de la Vergne. 6. Of

6. Of the city of Roſoy and its territory, by M. Bertin.

PRIZES PROPOSED.

THE Society propoſes, as the ſubject of a prize of the value of ſix hundred livres, founded by the King, the following queſtion:

Exiſte-t'il des inflammations lentes ou chroniques, dans le ſens, où elles ſont admiſes par Stoll et par quelques modernes? Si elles exiſtent, quels en ſont les ſymptomes, et quel doit en être le traitement?

This prize will be delivered at the public aſſembly in 1791; and memoirs reſpecting it muſt be ſent before the 1ſt of December 1790, addreſſed to M. Vicq d'Azyr, perpetual ſecretary of the Society, accompanied by a ſealed billet, containing the name of the author, and marked with the ſame epigraphe as the memoir.

To this program is ſubjoined a table of all the ſubjects of prizes, lately propoſed by the Society,

Society, and not yet determined, with the ultimate period at which memoirs can be received.

1. A prize of twelve hundred livres, for the beſt ſolution of the following queſtion.—Memoirs to be tranſmitted by the 1ſt of December 1789.

Determiner par l'examen comparé des proprietés phyſiques et chimiques, la nature de lait de femme, de vache, d'aneſſe, de brebis, et de jument.

2. A prize of ſix hundred livres.—Memoirs to be ſent by the 1ſt of December 1789.

Determiner, dans le traitement des maladies, pour leſquelles les differens exutoires ſont indiqués; 1*mo*, Quels ſont les cas, ou l'on doit donner la preference à l'un d'eux ſur les autres. 2*do*, Dans quels cas on doit les appliquer, ſoit à la plus grande diſtance du ſiege de la maladie, ſoit ſur les parties les plus voiſines, ſoit ſur le lieu même de la douleur.

3. A prize of ſix hundred livres.—Memoirs

moirs to be ſent by the 1ſt of December 1789.

Determiner quels ſont les inconveniens, et quels peuvent être les avantages de l'uſage des purgatifs et de l'expoſition à l'air frais dans les differens temps de la petite vérole inoculée, et juſqu' à quel point les reſultats des recherches faites à ce ſujet peuvent être appliqués au traitement de la petite vérole naturelle.

4. A prize of three hundred livres.—Memoirs to be ſent by the 1ſt of December 1789.

Determiner, par une ſuite d'obſervations, quels ſont les bons et mauvais effets qui reſultent de l'uſage des differentes eſpeces de Son, conſideré comme aliment, ou comme medicament, dans la medecine des animaux.

5. A prize of eight hundred livres.—Memoirs to be ſent by the 1ſt of May 1790.

Determiner, 1*mo*, S'il exiſte des maladies vraiment héréditaires, et quelles elles ſont?

2*do*,

2*do*, S'il eſt au pouvoir de la médecine d'en empecher le developement, ou de les guérir après qu'elles ſe ſont déclarées ?

6. A prize of an indeterminate value, firſt propoſed at the meeting on the 28th of Auguſt 1787, and afterwards on the 26th of Auguſt 1788.—Memoirs to be ſent by the 1ſt of December 1789.

Donner des renſeignemens exacts ſur la maniére de faire rouir le chanvre et le lin ; indiquer s'il en reſulte des inconvéniens pour la ſanté des hommes ou des animaux, et quels ſont ces inconvéniens ; ſi l'eau, dans laquelle on a fait rouir du lin ou du chanvre contracté des qualités plus malfaiſantes par leur maceration que par celle des autres ſubſtances végétables ?

7. A prize of four hundred livres.—The period at which memoirs are to be ſent is not fixed.

Determiner quelles ſont relativement à la température de la ſaiſon et à la nature du climat, les precautions à prendre pour conſerver la ſanté d'une armée vers la fin

de l'hiver, et dans les premiers mois de la campagne; à quelles maladies les troupes ſont le plus expoſées à cette epoque, et quels ſont les meilleurs moyens de traiter ou de prevenir cettes maladies?

8. A prize of ſix hundred livres.—Memoirs to be ſent by the 1ſt of May 1790.

Determiner quelles ſont les maladies dont le ſyſtême des vaiſſeaux lymphatiques eſt le ſiége; c'eſt-a-dire, dans leſquelles les glandes, les vaiſſeaux lymphatiques, et le fluide qu'ils contiennent, ſont eſſentiellement affectés; quels ſont les ſymptomes qui les caracteriſent, et les indications qu'elles offrent à remplir?

9. A prize of ſix hundred livres.—Memoirs to be ſent by the 1ſt of May 1790.

Rechercher quelles ſont les cauſes de l'endurciſſement du tiſſu cellulaire, auquel pluſieurs enfans nouveaux-nés ſont ſujets; et quel doit en être le traitement, ſoit preſervatif, ſoit curatif?

10. A prize of one thouſand ſix hundred livres.

livres.—Memoirs to be ſent by the 1ſt of February 1790.

Determiner, par des obſervations, et par des experiences, quelle eſt la nature du vice qui attaque et ramollit les os dans le Rachitis ou le noueure ; et rechercher d'apres cette connoiſſance acquiſe, ſi le traitement de cette maladie ne pourroit pas être perfectionné ?

All memoirs competing for theſe prizes, muſt be addreſſed to M. Vicq d'Azyr, Perpetual Secretary to the Society, under the uſual conditions.

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At a general meeting of the Royal Academy of Surgery of Paris, held on the 13th of April, Mr Louïs, Perpetual Secretary, announced the diſtribution of the following prizes. The firſt gold medal was obtained by M. Deſgranges, Member of the Royal College of Surgery at Lyons. The ſecond, founded by Mr Vermond,

for improving the Obſtetric Art, by M. Mauſſion, Chief Surgeon to the Hotel-dieu at Orleans. That of Emulation, by M. Currerier, Chief Surgeon to the Hoſpital of Bicêtre. And five medals, of one hundred livres each, to M. M. Mangé, Profeſſor of Midwifery at Rennes; Mirault, Chief Surgeon to the Hotel-dieu at Angers; Yſabeau, Lieutenant to the King's Firſt Surgeon at Gien; Boner, Surgeon at Nerac; and Denys, Surgeon-major to the Civil and Military Hoſpital at Commercy.—The prize-queſtion propoſed by the Academy for 1791, is, To determine the materials and form proper for cauterizing inſtruments, known by the name of Actual Cauteries; to lay down rules and cautions for uſing them, with reſpect to the different parts to which they may be applied; and to point out in what caſes their application may be deemed neceſſary and beneficial.—Memoirs muſt be ſent by the 1ſt of January 1791.

The

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The Abbé Reynal, ſo juſtly celebrated all over Europe for extenſive literature, being deſirous of appropriating ſome part of that fortune which he has acquired by his abilities, in calling forth the exertions of others, has preſented to the Royal Academy of Inſcriptions and Belles Lettres at Paris, a perpetual annuity of 1200 livres, for a prize-queſtion on any ſubject which the Academy may think proper to propoſe. They have begun this inſtitution by propoſing the following queſtion:

What were the precautions taken by the Greeks and Romans for regulating the police, and promoting the ſalubrity of cities? With an inquiry, Whether we can derive any benefit from the hints which they have left us on theſe ſubjects?

Memoirs on this queſtion muſt be tranſmitted to the Secretary by the 1ſt of July 1790.

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The Imperial and Royal Academy of Sciences and Belles Lettres at Bruſſels, have conferred a prize on M. Wanters, Phyſician at Wetteren near Ghent, for the beſt ſolution of the following queſtion:

What indigenous vegetables will yield oil which may be uſed inſtead of that of olives?—How is ſuch oil to be prepared and preſerved?—And at what rate might it be afforded, ſuppoſing the ſubſtance from which it is drawn to be purchaſed at a given price?

The acceſſit was adjudged to Mr J. B. Vanden Sande, Apothecary and Chemiſt at Bruſſels.

The ſame Society have propoſed the following queſtion:

What plants are there, growing ſpontaneouſly in the Auſtrian Netherlands, which have not been mentioned by any ancient

ancient or modern botanical writer of thoſe provinces, or of the neighbouring countries?

The prize is a gold medal, about the value of twelve pounds Sterling.—Memoirs written either in the Latin, French, or Flemiſh languages, muſt be ſent to M. l'Abbé Mann, Perpetual Secretary, before the 16th of July 1790.

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The Philoſophical Society of Zealand and Fluſhing propoſed, as the ſubject of a prize-queſtion, an inquiry reſpecting the diſeaſes of the negroes in the Dutch Weſt India colonies.—As one paper only was ſent to the Society, and as that paper was deemed unſatisfactory, the queſtion is again propoſed.—Memoirs muſt be tranſmitted either to M. Dryt houl, Miniſter at Middleburg, or to M. H. Van Royen, Rector of the Latin School at Fluſhing, Secretaries to the Society.

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The Philoſophical Society of Haarlem have propoſed, as the ſubject of a prize-queſtion, an inquiry concerning the preſent ſtate of medicine and ſurgery among the Eaſtern Nations, particularly the Chineſe;—to be anſwered by the 1ſt of November 1789:—And an inquiry concerning the efficacy of poppy as a prophylactic and remedy in the dry flux, occaſioned by infection.—To be anſwered by the 1ſt of November 1790.

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The Phyſical Society of Haarlem have propoſed the following prize-queſtion.—Memoirs to be tranſmitted by the 1ſt of November 1790.

What

What are the utility and advantages of experimental philoſophy, both to the public and to thoſe who cultivate it?—What lights does it throw on other uſeful ſciences?—How may a more general ſtudy of it be excited and facilitated?—And what inquiries may be undertaken, with a well-founded hope of improving the ſcience of natural philoſophy, and enriching it with new and intereſting diſcoveries?

The prize is a gold medal, value 400 florins, near 37 l.—The papers may be written in Latin, French, or Dutch; and muſt be tranſmitted to the Secretary by the 1ſt of April 1790.

The Haarlem Society have alſo propoſed a queſtion, with reſpect to the theory of Dr Crawford concerning heat and fire; for the 1ſt of November 1791.

Twenty-

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Twenty-four different eſſays were tranſmitted to the Imperial Academy of Sciences at Peterſburg, on their queſtion, reſpecting the powers by which the diſtribution of fluids is effected in plants, and in the nails, hairs and horns of animals. None of them, however, were perfectly ſatisfactory. But two were thought worthy of dividing the prize; the one was found to be written by J. F. Blumenbach, profeſſor of phyſiology at Gottingen, the other by C. F. Born, profeſſor of ſurgery at Cronſtadh.

The following queſtion is propoſed for a prize of one hundred ducats, for the year 1790.

Of what nature is the colouring matter? Was it rightly termed *ſulphur* by the ancient chemiſts? In what does it reſemble, or in what does it differ, from common ſulphur? Does it more properly belong

to

to any other ſpecies of mixed bodies, compounded like that of phlogiſton, and a ſaline matter? or is it a ſubſtance *ſui generis?* 2. Of what nature is that ſaline matter by which the phlogiſton is fixed? Is it acid, alkaline, or neutral? If, as is moſt probable, it be acid, What is the acid by which phlogiſton, being fixed, becomes particularly adapted for diſſolving the rays of light, or, which is the ſame thing, producing colours? 3. Of what kind is that earth which is particularly requiſite for receiving phlogiſton when fixed with its ſaline matter? 4. Whence ariſes the diverſity of colour? Is it from the different mixture of the ſame elements of the colouring ſubſtance; from the different proportion of the phlogiſton to the fixing ſaline matter; or rather, ſince phlogiſton appears to be one and the ſame thing in all the three kingdoms, Is it from the difference of the fixing ſaline matter ſolely, or is it from the difference of the earth which receives it? 5. Finally, What ſaline matter, or what mixture of phlogiſton with ſaline matter,

is

is required to produce a red colour; what a blue, what a green, &c.? for even this diſcovery the Academy thinks within the reach of the human mind, and to be attained by means of judicious and properly varied experiments. The memoirs on this ſubject may be written in the Ruſſian, Latin, German, or French languages, and muſt be tranſmitted to the Society by the 1ſt of December 1790.

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The Royal Academy of Sciences at Liſbon, have propoſed the following prize-queſtion for 1791.

What is the eaſieſt and beſt method of ſeparating the alkaline baſe from common ſalt, ſo that it may be perfectly freed from acid, and fit for the uſe of manufactures?

The prize is a gold medal, value 14l.—Memoirs muſt be ſent to the ſecretary of the academy by the 1ſt of June 1791.

The

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The Medical Society at Amſterdam have received no ſatisfactory anſwer to their queſtion, reſpecting the diſorders moſt difficult to be aſcertained, both at their commencement and during their progreſs. They think, however, that ſome regard is due to three diſſertations; one of which had for its motto, *Amicus Plato, amicus Socrates, ſed magis amica veritas*; another, *Terar dum proſim*; and the third, *Nihil temere, nihil fruſtra.* The Society, therefore, invite theſe writers to review, poliſh, and correct their diſſertations, within the ſpace of three months; and they have propoſed the following queſtion for the 1ſt of May 1790.

Has the internal uſe of the Flores Zinci hitherto anſwered, or exceeded, the expectations of the celebrated Gaubius, who firſt gave encouragement to its uſe? If it has exceeded them, in how far, and in what reſpects? Have any uſeful diſcoveries

veries or experiments been made, with reſpect to the method of uſing this medicine, its properties, the manner of preſcribing it, whether mixed with other medicines, or diſſolved in any chemical liquor, or otherwiſe?

Memoirs muſt be tranſmitted to Petrus Conradi, bookſeller at Amſterdam.

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The Philadelphian Society at Cape François, have propoſed the following queſtion for 1790. The prize is a gold medal; and memoirs muſt be addreſſed to M. Arthaud, Secretaire perpetuel de Circle de Philadelphes.

What are the ſigns by which the convulſions, death, inflammatory or gangrenous ſtate and ulcerations and eroſions produced in the ſtomach and inteſtines, by worms, or other morbific cauſes, may be diſtinguiſhed from the convulſions, death, inflammation or eroſions produced by different kinds of poiſons?

At

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At the laſt annual meeting of the Medical Society of London, held on Monday the 9th of March, at their houſe in Bolt-Court, Fleet-Street, the Preſident, Dr Sims, in a ſpeech adapted to the occaſion, gave a ſhort hiſtory of what had been done by the Society ſince the laſt anniverſary meeting; and announced the deciſions of the Society relative to the adjudications of the honorary medals of the preſent year; which were as follow:

The ſilver medal, appropriated for the beſt eſſay written within the year by a Fellow of the Society, to Mr Henry Fearon, Surgeon, for his Diſſertation on Cancers. And the other ſilver medal, annually given for the beſt memoir by any correſponding member or ſtranger, to Dr Percival of Mancheſter, Correſponding Member, for his paper on the ſolvent power of Camphor, and his memoir intituled, Miſcellaneous Obſervations, &c.

Honorary

Honorary ſilver medals were alſo awarded to Mr Thomas Pole, Surgeon, and to Dr Benjamin Ruſh of Philadelphia, Correſponding Members, for their valuable communications, and their aſſiduity in promoting the intereſt of the Society.

No ſatisfactory anſwer having been given to the queſtion propoſed as the ſubject of the prize-eſſays for the Fothergillian medal of the preſent year, viz. What circumſtances accelerate, retard, or prevent the progreſs of infection? the queſtion lies over until next year; when diſſertations on that queſtion, from any perſon who may chooſe to become candidates for the medal, will again be received.

The Fothergillian medal of next year, will be adjudged to the author of the beſt account, claſſification and cure of cutaneous diſeaſes:—And that for 1791 is, What diſeaſes are moſt prevalent in great towns? and what are the beſt methods of preventing them? To which muſt be added, A hiſtory of the epidemic conſtitution for at leaſt one whole year.

The

The Society then proceeded to the choice of the officers and council for the enſuing year, when, on examining the ballots, the following gentlemen were duly elected:—Preſident, Dr James Sims—Treaſurer, Dr Lettſom—Librarian, Mr Hurlock, junior—Secretaries, Mr Chamberlaine and Mr Ridout—Secretary for foreign correſpondence, Dr Bancroft.

COMMITTEES.

1. Theory and Practice of Phyſic—Drs Aſh, Combe, Ferris, M'Namara Hayes, Myers.
2. Anatomy and Phyſiology—Meſſrs Forſter, Haighton, Turnbull, M'Evoy, Young.
3. Surgery—Meſſrs Fearon, Norris, Simpſon, Ware, Wadd.
4. Midwifery—Drs Denniſon, Squire, Hooper,—Meſſrs Pole, Steele.
5. Materia Medica and Pharmacy—Meſſrs Parkinſon, Hooper, Dymond, Champney, Bureau.
6. Botany and Natural Hiſtory—Meſſrs Church, Houlſton, Jameſon, Samwell, Witham.

7. Natural Philoſophy, and Chemiſtry—Meſſrs Baker, Field, Jackſon, Walſhman, Webb.

Anniverſary Oration for the year 1790—Dr Wallis.

A very elegant Latin oration was then delivered by Dr Denniſon; which concluded the meeting.

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The annual prize-medal given at the Lyceum Medicum of London for 1789, has been adjudged to Mr James Moore ſurgeon, for his Diſſertation on the proceſs of nature in the healing of wounds.

We

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We formerly mentioned, that the Harveian Society of Edinburgh had propoſed, as the ſubject of their prize-queſtion for 1788, An experimental enquiry concerning the nature and properties of the Nicotiana Tabaccum of Linnæus; into the different active conſtituent parts of this vegetable, their effects on the human body, and their uſe in the cure of diſeaſes? Diſſertations on this ſubject were directed to have been tranſmitted to the Secretaries, by the firſt of January 1789; but nothing of ſufficient merit having been received, the ſame queſtion is again propoſed for the year 1790. The diſſertations of competitors muſt be tranſmitted to the Secretaries by the firſt of January 1791.

The ſubject propoſed by the Harveian Society for the year 1789, was, An enquiry into the nature and properties of thoſe medi-

cal products which are obtained from a combination of ardent ſpirit with acids? Diſſertations on this ſubject, muſt be tranſmitted, under the uſual conditions, to Drs Duncan or Webſter, by the firſt of January 1790.

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Dr Cullen, to whoſe induſtry and genius, as a medical practitioner, teacher, and author, the public have been highly indebted, ſtill continues his exertions, with indefatigable zeal. He is at preſent engaged in preparing for the preſs, a fifth volume of his Firſt Lines of the Practice of Phyſic, which will probably be publiſhed in no long time.

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A ſecond volume of the Tranſactions of the Royal Society of Edinburgh, has been in the preſs for a conſiderable time paſt, and is now ſo far advanced, that, in all probability, it will appear at an early period in the courſe of the enſuing year.

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M. Fourcroy of Paris, lately publiſhed in that city, a new edition, in five volumes octavo, of his work, intituled, " Elémens d'Hiſtoire " Naturelle et de Chimie, troiſieme edition, " par M. de Fourcroy, Docteur en Medicine " de la Faculté de Paris," &c. In this edition, he has greatly altered and improved the plan of his work. He has exhibited a much

more accurate comparative view of the Phlogiſtic and Antiphlogiſtic Theories; and, in conſequence of having embraced the latter of theſe theories, he has adopted a new nomenclature, formed upon its principles by him and ſome other reſpectable French chemiſts. As ſoon as this new edition appeared, Mr Elliot bookſeller in Edinburgh, who had publiſhed a tranſlation of the firſt editition, engaged an ingenious gentleman, well verſed in chemical ſcience, to put this edition alſo into an Engliſh dreſs. This work has been in the preſs for ſome time paſt, and a conſiderable part of it is now printed off; ſo that, in all probability, it will be publiſhed in a ſhort time.

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Mr Robert Kerr ſurgeon in Edinburgh, and a member of the Royal and Antiquarian Societies in that city, is engaged in publiſhing a tranſlation of another very important chemical work

work from the French: "Traité élémentaire "de Chimie, préſenté dans un ordre nouveau, "et d'apres les découvertes modernes, avec "figures, par M. Lavoiſier de l'Académie "des Sciences," &c. In this work, M. Lavoiſier endeavours to explain and ſupport the antiphlogiſtic ſyſtem, which owes its origin to him; and as the work combines, in an eminent degree, brevity, perſpicuity, and elegance, it can hardly fail to be highly acceptable to the chemical reader, who wiſhes to ſee the elements of the ſcience unfolded, on the principles of the new doctrine. But it contains alſo a full ſyſtem of philoſophic chemiſtry, and gives a complete account, illuſtrated with copper-plates, of every inſtrument and apparatus neceſſary in pneumatic chemiſtry.

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While theſe works, tending to ſupport the New Syſtem, as it is called, have lately ap-

peared in the French language, and will ſoon appear in Engliſh, we may alſo hope in a ſhort time to be favoured with another important chemical work, in which a different doctrine is ſupported. We mentioned in our laſt volume, that Mr Keir of Birmingham, a gentleman well known to the chemical world, was engaged in publiſhing a new edition of the Dictionary of Chemiſtry which he formerly tranſlated from the work of M. Macquer, but with ſuch alterations and additions, that it might juſtly be conſidered as a new work. The firſt part of this valuable work will ſoon appear; and a preface is affixed to it, containing animadverſions on the Antiphlogiſtic ſyſtem and the new French nomenclature. If that doctrine has very powerful ſupporters in Meſſrs Lavoiſier and Fourcroy, it has alſo, it muſt be allowed, a very able opponent in Mr Keir. And he whoſe aim it is to arrive at truth, muſt candidly examine the writings on both ſides.

We

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We have already repeatedly mentioned, in former volumes, a work which has been for ſome time in the preſs at Edinburgh, under the title of The Philoſophy of Natural Hiſtory. Mr Smellie, the author of that work, is already favourably known to the public by his tranſlation of the Count de Buffon's Natural Hiſtory. But from his numerous engagements in other lines, the publication has been retarded much longer than there was at firſt reaſon to imagine. This work, however, which will be compriſed in one large volume in quarto, is now almoſt entirely printed off, and will certainly appear at an early period of the enſuing year.

The

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The publiſhers of the new edition of the Encyclopœdia Britannica, continue with great punctuality to fulfil their engagements with the public. They have already completed their fourth volume, which, however, extends only to the beginning of the article Chemiſtry; an evident proof of the very large, and we apprehend we may with juſtice affirm, important additions which have taken place. Such has been the ſatisfaction afforded by their work, in its new form, to intelligent readers, and ſuch the character it has acquired, that although they began by throwing off a very large impreſſion, they ſoon found it neceſſary to reprint both the firſt and ſecond volumes, and to increaſe the impreſſion of the ſucceeding ones.

Mr

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Mr Andrew Bell of Edinburgh, engraver to his Royal Highneſs the Prince of Wales for Scotland, though at preſent a great part of his time be occupied with the new edition of the Encyclopædia Britannica, has yet been able to make ſome progreſs with his ſyſtem of Anatomical Plates; and his fourth part, containing the plates of the ſkin, brain, organs of ſenſes, &c. will, it is highly probable, be publiſhed early in the enſuing year.

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We mentioned in our laſt volume the intended publication of a Flora Edinburgenſis, by Mr Malcolm M'Coig, gardener to the Royal Botanical Garden at Edinburgh. But we are ſorry

ſorry to ſay, that in conſequence of the premature death of that ingenious and induſtrious young man, it is now a very doubtful matter whether this publication will ever appear. For his manuſcripts are left in ſuch a condition, that it would require very great labour from any other perſon, before they could be brought to ſuch a ſtate as to be fit to be put into the hands of a printer.

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A new edition of a work which has juſtly obtained much reputation on the continent of Europe, will ſoon appear at Edinburgh, under the following title:—Ferdinandi Leber prælectiones anatomicæ, editio nova, cui nunc primum acceſſerunt obſervationes quædam phyſiologicæ et anatomicæ, curante J. Wilſon, M. D.

Dr

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Dr Ibbeken has advertiſed in the ſhops of the bookſellers of Edinburgh, an intention of publiſhing by ſubſcription, a work under the title of Letters Medical and Familiar to a Noble Family, which, from the encouragement he ſeems to have received in this undertaking, will probably ſoon be put to the preſs.

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Dr Francis Balfour, lately in the ſervice of the honourable the Eaſt India Company, for whoſe ingenious eſſay on the influence of the moon in fevers, we may refer our readers to a former volume of theſe * Commentaries, has

* Vol. IX. Decade I. page 147.

has lately returned to his native country, and has occupied the leiſure of his voyage in preparing for publication a great number of important obſervations on the ſame ſubject, which he has had an opportunity of making in different parts of India, particularly in the kingdom of Bengal, during a reſidence for twenty years in that country.

As on this ſubject a juſt concluſion can be formed only from a candid examination of facts, we ſhall not attempt to anticipate the judgment of our readers, by ſaying any thing with reſpect to it. Nor will we pretend to determine whether the lunar influence in fevers not being obſerved in this country, is to be attributed to its agency being here counteracted by other cauſes, or to the inattention of practitioners. We may only obſerve, that in this intended publication, Dr Balfour has given a very ſatisfactory anſwer to the objections which have been made to his doctrine by Dr Lind and others, who allow the lunar influence, but attribute it to the effect of the tides upon the neighbouring ſhore. This hypotheſis can never be adopted, when it is conſidered,

ſidered, that the greater part of Dr Balfour's obſervations were made at Lucknow, Baneres, and other places, many hundred miles diſtant from the ſea, and totally removed from the influence of any tides.

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The treatiſe on the ſmall-pox by Dr Robert Walker of Edinburgh, which we mentioned in our laſt volume, has been for a conſiderable time paſt in the preſs, and is now nearly printed off. The publication of it, therefore, will probably take place in a ſhort time.

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A new edition of Dr Blane's Obſervations on the Diſeaſes of Seamen will ſoon be publiſhed.

liſhed. In this edition, the author propoſes to ſubjoin to the third part, by way of appendix, a liſt of the remedies beſt ſuited for the practice of medicine at ſea, and the quantities of each with which he thinks it neceſſary that a ſhip ſhould be provided, in proportion to the number of men that ſhe carries. He means alſo to add a ſet of convenient formulæ, for the direction of young practitioners at ſea. And, from his well known experience and abilities, we have no doubt that his hints on both theſe ſubjects will be highly uſeful to thoſe for whom they are particularly intended.

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The College of Phyſicians of Philadelphia, of whoſe inſtitution we gave an account in a former volume * of this work, have, in purſuance of the great object for which they were aſſociated,

* Vol. II. Decade II. page 387.

aſſociated, the advancement of the ſcience of Medicine, as a means of leſſening human miſery, been aſſiduouſly engaged in collecting for publication, important medical obſervations. And we are informed, that a firſt volume of their Tranſactions will ſoon appear. Among other papers contained in this intended publication, there is, we are told, one by a celebrated Black phyſician at New Orleans, containing many excellent and uſeful obſervations on the putrid ſore-throat.

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Dr James Edward Smith of London, who purchaſed the library and muſeum of Linnæus, has been for ſome time engaged in preparing for publication accurate deſcriptions of rare plants, ſelected from the Herbarium Linnæanum. This work is to be publiſhed in faſciculi, with plates executed by artiſts converſant in botany. Many of theſe plants

have never yet been deſcribed, and ſome of them conſtitute new genera.

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Profeſſor Scarpa of Padua is ſaid to have made an intereſting diſcovery concerning the organ of hearing in man, which he has confirmed and illuſtrated by the comparative anatomy of that organ in fiſhes, birds, and reptiles. He propoſes ſoon to publiſh a work on that ſubject, under the title of Anatomicæ Diſquiſitiones de Auditu et Olfactu; which is ſaid to contain many minute, phyſical, and phyſiological obſervations on theſe ſenſes.

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Mr de la Haye has publiſhed at Cape François, a proſpectus of a work, intituled, Florindie,

Florindie, ou Hiſtoire phyſico-economique des vegetaux de la Torride, &c. This work will contain an hiſtory of the plants of St Domingo, under names relative to their uſes; their nomenclature and ſynonimes; their generic names; a methodical deſcription of their parts; an account of the places where they grow; the ſeaſons in which they flower and fructify; their culture, properties, &c. Each genus will form a ſeparate treatiſe, ornamented with a frontiſpiece, exhibiting the name of the claſs, order and family, to which it belongs. Each volume, of a large quarto ſize, will contain upwards of three hundred pages, and from thirty to fifty plates, and will be ſold to ſubſcribers at the price of two pounds fifteen ſhillings. The number of volumes to which this work will extend, cannot yet be aſcertained.

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Dr William Woodville of London has publiſhed a proſpectus of a Botanical Repoſitory, giving an account of a deſign he has formed of rendering a knowledge of the vegetable world, through the medium of copper-plate impreſſions, more generally acceſſible, by reducing the price ſo far that they may be purchaſed at a moderate rate. He intends to begin with giving figures of the medicinal plants, particularly thoſe of the London and Edinburgh Diſpenſatories. Six plates, accurately engraved, will be publiſhed on the firſt of January 1790, and continued regularly every month, till the whole vegetable Materia Medica be completed, accompanied with the neceſſary letter-preſs, in which each plant will be noticed as to its name, claſs, order, general deſcription, &c. Each number, including ſix plates and letter-preſs, will be ſold for one ſhilling:

ſhilling: And thoſe deſirous of purchaſing the work, who wiſh to have early impreſſions, are requeſted to ſend their names to Dr Woodville, Bartholomew-lane, London.

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It has long been a matter of much and juſt regret, that many of the buildings appropriated to the purpoſes of literature in the Univerſity of Edinburgh, are not only contemptible in their external appearance, but highly inconvenient in their internal ſtructure. From theſe circumſtances, the building of a new College at Edinburgh has often been talked of as a very deſireable meaſure. We are happy in being able to inform our readers, that a ſerious effort is now to be made for this purpoſe.

The preſent chief magiſtrate of Edinburgh, the right honourable Thomas Elder, Eſq; of Forneth, whoſe character for activity and public ſpirit has long been eſtabliſhed among his

fellow-citizens, has this object very much at heart. In conſequence of his exertions, and with the almoſt unanimous approbation of thoſe intereſted in the buſineſs, a plan for the building of a new College has not only been fixed upon, but the foundation-ſtone was actually laid on the 16th of November laſt by the Right Honourable Francis, Lord Napier, preſent Grand Maſter Maſon of Scotland, the lineal repreſentative of the immortal Napier of Merchieſton, the inventor of the Logarithms; which, if we attend to its importance in navigation and other arts, may perhaps be conſidered as the moſt uſeful ſcientific diſcovery that has been made ſince the creation of the world.

Lord Napier, on this occaſion, was attended by upwards of a thouſand of the brethren, among whom were ſeveral of the moſt eminent characters in Scotland; his Grace the Duke of Buccleugh, and many others of the firſt nobility and gentry having joined in this maſonic proceſſion. The proceſſion was alſo attended by the Lord Provoſt and Magiſtrates in their robes; by the Principal and Profeſſors of the Univerſity in their gowns;

gowns; and by a numerous body of ſtudents, diſtinguiſhed by laurels in their hats. Many of the ſtudents indeed, particularly of the ſtudents of medicine, declined to join the proceſſion, having taken offence at the late period at which an invitation was given them, and ſome other circumſtances. But we may with confidence aſſert, that all of them unite in wiſhing ſucceſs to this undertaking. And we doubt not that they will be ſtill more ready to demonſtrate gratitude to their Alma Mater for real ſervices, than they have been to ſhew reſentment at the conduct of ſome of their elder brethren, for what at the utmoſt could only be conſidered as an unintended affront.

The plan of the New College is deſigned by that ingenious artiſt Robert Adam, Eſq; of London, a native of the city of Edinburgh, and an eléve of its Univerſity: and it is, we believe, one of the greateſt efforts of his genius. It unites, in an eminent degree, both elegance and convenience, and will afford to the teachers and to the ſtudents, in every branch of literature, many advantages which they have not hitherto enjoyed.

It may, however, be readily concluded, that this building cannot be executed, but at an expence to which the funds hitherto appropriated to the College of Edinburgh are totally inadequate: aid therefore muſt neceſſarily be ſought for from other quarters; and it is expected, with ſome degree of confidence, that a very conſiderable ſum may be raiſed in the way of voluntary ſubſcription. By even ſmall contributions from great numbers, much may be done: And it is expected, that not only all ranks in the city of Edinburgh will chearfully contribute in proportion to their abilities, but that ſubſcriptions to a work of ſuch general national utility, will alſo be obtained from every part of the Britiſh dominions. For every lover of ſcience is a citizen of the world. It is particularly expected, that thoſe who have been educated at the Univerſity of Edinburgh, of whom great numbers are now ſettled, eſpecially in the medical line, in every quarter of the world, will not only contribute to this undertaking themſelves, but with activity exert their endeavours in promoting the ſubſcription among others.

During

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During the courſe of the year 1789, Dr Charles Stuart, Dr Alexander Hamilton, Dr Alexander Grant Clugſton, Dr John Craigie, Dr Charles Webſter, Dr Charles Congalton, Dr Thomas Gillies, and Dr James Clark, have been admitted fellows of the Royal College of Phyſicians of Edinburgh.

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Dr Andrew Inglis was admitted a member of the Royal College of Surgeons at Edinburgh, on the 10th of Auguſt 1789.

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The following gentlemen have been admitted members of the Royal Society of Edinburgh, during the courſe of the year 1789:

Dr

Dr Bartholomew Parr, of Exeter.
Dr John Drummond, of Jamaica.
Mr Guyot, of Paris.
Mr Jefferſon, miniſter plenipotentiary from the States of America, at Paris.
General Robert Melville.
Reverend Dr John Ogilvie, of Midmar.
John Thomas Stanley, Eſq; of Alderby in Cheſhire.
Dr Henry Engelhart, profeſſor of the Practice of Medicine at Lund in Sweden.
Dr Joachim Ramm, of Riga.

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Dr Thomas Hope, whom we mentioned in our laſt volume, as being appointed lecturer on chemiſtry in the univerſity of Glaſgow, has been nominated by his Majeſty to be profeſſor of medicine in that univerſity, in conjunction with his uncle Dr Alexander Stevenſon, who has long held that office.

Dr

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Dr John Henry Engelhart, a native of Gottenburg, who, in the courſe of his medical ſtudies, paſſed ſeveral years at Edinburgh, London, and Paris, and in the former of theſe places diſtinguiſhed himſelf ſo much as to be elected a preſident both of the Royal Medical, and Phyſical Societies, was, on the 7th of December 1788, appointed profeſſor of the practice of medicine in the Univerſity of Lund in Sweden, in the room of Dr Roſenbald who had reſigned. Dr Engelhart was originally a pupil at Lund, and had obtained a degree in medicine there, before he ſet out on his travels to acquire medical knowledge in other countries.

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On the 7th of May 1788, died Jo. Antony Scopoli, a celebrated profeſſor at Pavia. He was born in the year 1723, at a village in the

the principality of Triente. His father, Francis Antony Scopoli, was a military commiſſary to the Prince Biſhop; and his mother, Claudia Catharina Gramola, was deſcended from a patrician family in the ſame province. For ſome years, he was educated in his father's houſe; after which, he was committed to the care of his uncle Antony Gramola, from whom he received inſtructions in rhetoric and philoſophy till he arrived at the ſixteenth year of his age.

In the year 1740, he went to the Univerſity of Inſpruck, for the purpoſe of ſtudying medicine; and having paſſed three years there, he obtained degrees both in philoſophy and medicine. After this, returning to his native country, he practiſed medicine for ſome months in the hoſpital at Triente. But, by his own entreaties, he prevailed upon his father to allow him to paſs ſome years at Venice, that he might attend to the practice of medicine under a celebrated and very deſerving phyſician, Lothario Lotti. Here a deſire of ſtudying pharmacy and natural hiſtory, to which he had before been much attached, was rekindled: He increaſed his knowledge of plants in the botanical gardens there,

there, and cultivated, with great ſucceſs, other branches of natural hiſtory.

After again returning home, he ſearched with particular attention the neighbouring mountains, eſpecially thoſe of Carniolia, accurately examining the animals, plants, and minerals, which they contained; and of his ſtudies in theſe particulars, his Flora and Entomologia Carniolica afford the ſtrongeſt evidence. He ſoon after this formed the intention of viſiting Vienna, that he might obtain the privilege of practiſing medicine in the Auſtrian dominions. At Vienna he underwent a rigorous examination, with great applauſe; and defended a diſſertation concerning a new method of diſtributing plants into claſſes. The illuſtrious Van Swieten, captivated with his abilities, would have procured for him an appointment at the Hungarian mines; but he refuſed it, being rather deſirous of indulging his genius, and of making collections in the way of natural hiſtory; and he now dedicated his whole time to the ſtudy of natural hiſtory, chemiſtry, and agriculture. By viſiting different parts of the Auſtrian territories, he collected many excellent obſervations on theſe ſubjects. Thus qualified,

qualified, he was appointed profeſſor of botany and chemiſtry at Vienna, in the year 1765, in the room of Nicolas de Jaquin, who was appointed profeſſor of metallurgy at Schemnitz in Hungary. Beſides teaching with great induſtry, he publiſhed ſeveral treatiſes on the art of making charcoal, on metals, &c.

After this he travelled over Lower Hungary, with the view of illuſtrating its natural hiſtory; and upon his return in the year 1776, a newly-inſtituted profeſſorſhip of natural hiſtory at Pavia, with the direction of the botanical garden there, was conferred upon him. The duties of theſe offices he continued to exerciſe till his death. In numerous publications, ſome of which are written in the Latin, ſome in the German, and ſome in the Italian language, he has left behind him monuments of his abilities. Without entering into a full enumeration of theſe, we may mention as examples, his Methodus Plantarum; Flora Carniolica; Entomologia Carniolica; Anni Hiſtorico-Naturales; Diſſertationes ad Scientiam Naturalem pertinentes; Elementi di Chimica e di Farmacia: and his laſt work, of which, part only was publiſhed at the time of his death,

death, Deliciæ Floræ et Faunæ Inſubricæ. Theſe, and a variety of other publications, abundantly demonſtate how much natural hiſtory, in all its branches, has been indebted to his exertions.

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Dr Jo. Fr. Theoph. Goldhagen profeſſor of metallurgy at Halle, lately died there, in the forty-fifth year of his age; and on the 19th of January 1788, Dr G. Math. Gattenhof, profeſſor of medicine and botany at Heidelburg, in the ſixty-ſixth year of his age.

Dr Tomlinſon, ſenior, phyſician to Guy's hoſpital, and well known to the medical world by his Medical Miſcellanies, or collection of tracts and commentaries, died lately in London. He was ſucceeded in his office of phyſician to the hoſpital by Dr Thomas Skeete, a very learned and ingenious young phyſician, of whoſe name we have frequently had occaſion to make honourable mention in this work. But Dr Skeete enjoyed that office only for a very

a very ſhort time; for all the flattering expectations which his friends had formed from his early exertions, were terminated by his death, which took place not long after his election.

Dr Erneſt. Gottlob. Boſſius, a celebrated profeſſor of the practice of medicine at Leipſic, lately died there, in the ſixty-fifth year of his age.

Dr Carolus de Mertens, juſtly celebrated by ſeveral uſeful publications, died lately at Vienna, in the fifty-firſt year of his age.

The medical world have alſo been lately deprived of two other very eminent characters, Dr Peter Camper, formerly profeſſor at Amſterdam; and Dr J. M. de Laſſone, late archiater to the French king; of both of whom, we hope to be able to give our readers ſome account in a future volume.

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State of the thermometer, barometer, and rain, from the 1ſt of July 1788, to the 1ſt of July 1789, being the reſult of obſervations made about a mile from the city of Edinburgh.

Months.	Thermometer.			Barometer.			Rain.
1788.	High.	Low.	Med. at mid-day	High.	Low.	Med.	
July	72	45	63	30.07	29.35	29.72	2.63
Aug.	76	43	65	30.35	29.12	29.79	1.17
Sept.	66	34	59	30.07	29.00	29.65	3.27
Oct.	61	29	56	30.65	29.49	29 93	0.41
Nov.	55	29	46	30.15	28.73	29.75	1.02
Dec.	44	14	33	30.07	28.37	29.71	1.18
1789.							
Jan.	51	12	35	30.56	28.55	29.43	4.75
Feb.	51	29	40	29.95	28.27	29.30	1.02
Mar.	47	21	39	29.97	28.82	29.40	1.20
April	64	30	49	29.84	28.09	29.45	1.10
May	69	32	57	29.97	29.08	29.60	1.10
June	78	48	60	30	29.06	29.65	1.15
For 12 months	78	12	50.1	30.75	28.09	29.61	20.11

The remarkable dryneſs of the year 1788, has been ſuch, as not only to claim the attention of ordinary obſervers, but even to call forth the obſervations of philoſophers, as will appear from a paper by the Reverend Mr Hutchinſon, in the Philoſophical Tranſactions. From the re-

giſter inſerted in our laſt volume, it will appear, that the rain which fell in the firſt ſix months of the year, amounted only to nine inches ſeventy-four hundredth parts; ſo that the rain in 1788 at Edinburgh was only 20.16. But even this was conſiderably more than the rain at London, which, as appears from the following regiſter, was not fifteen inches.

State of the thermometer, barometer, and rain at London for the year 1788, extracted from the Philoſophical Tranſactions, Vol. LXXIX, for the year 1789, Part I.

	Thermometer.			Barometer.			Rain.
	High.	Low.	Med.	High.	Low.	Med.	
Jan.	48	26	39.7	30.70	28.89	29.97	0.439
Feb.	50	29	41.3	30.21	28.65	29.68	1.146
Mar.	59	28	40.8	30.08	29.32	29.68	0.336
April	68	40	52.6	30.48	29.50	30.07	0.607
May.	80	49	60.0	30.34	29.58	30.04	0.497
June.	80	52	62.3	30.22	29.49	29.94	3.275
July.	77	55	63.7	30.22	29.73	29.99	1.620
Aug.	77	53	63.4	30.45	29.22	29.95	2.699
Sept.	74	45	58.6	30.25	29.37	29.86	3.345
Oct.	67	33	51.4	30.55	29.64	30.32	0.103
Nov.	58	27	42.9	30.50	29.61	30.11	0.510
Dec.	46	18	30.9	30.33	29.50	29.92	0.000
For the Year.	80	18	50.6	30.70	28.65	29.96	14.892

Mr

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Mr John M'Nab, at Fort Albany in Hudſon's Bay, who has already, oftener than once, favoured us with obſervations on the temperature of that climate, has ſent us the following account of the mean ſtate of the thermometer, obſerved at ſeven in the morning.

1788.	October -	+29
	November -	+18
	December -	+10
1789.	January -	— 9
	February -	—11
	March -	+ 4
	April -	+23
	May - -	+36

SECT. IV.

List of New Books.

A TREATISE of the Materia Medica. By William Cullen, M. D. Profeſſor of the Practice of Phyſic in the Univerſity of Edinburgh, Firſt Phyſician to his Majeſty for Scotland, Fellow of the Royal College of Phyſicians of Edinburgh, of the Royal Societies of London and of Edinburgh, of the Royal Society of Medicine of Paris, of the Royal College of Phyſicians of Madrid, of the American Philoſophical Society of Philadelphia, of the Medical Society of Copenhagen, of the Medical Society

Society of Dublin, and of the Royal Medical and Royal Phyſico-Medical Societies of Edinburgh. 2 vols. 4to, Edinburgh.

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