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“ For many fortunate discoveries in medicine, and for the detection of numerous errors, the world is indebted to the rapid circulation of Monthly Journals; and there never existed any work to which the Faculty in EUROPE and AMERICA were under deeper obligations than to the Medical and Physical Journal of London, now forming a long, but an invaluable, series.”—RUSH.

For the London Medical and Physical Journal.

On Practical Nosology; by Dr. KINGLAKE.

THE nominal designation of disease has undeniably many scientific, as well as practical, advantages; yet it must be confessed that the difficulty of distinguishing correctly, and of avoiding injurious conclusions, is so great as to render it extremely doubtful whether the prevailing nosology of the day is not more hurtful than beneficial. Every experienced practitioner must be fully aware of the incalculable importance of accurately discriminating between one disease and another. Were all morbid affections radically similar, however they might vary in external appearances, it would be of less moment to come to a true decision on the nature of an occurring disease, than it evidently is under the essential differences actually existing in the several disorders incident to human nature.

Every scheme of nosology that has been proposed seems to have been built on the unstable ground of considering every variety of constitution to be sufficiently similar to admit of general distinctions, as to the nature and character of occurring diseases. This persuasion is erroneous, and has served to mislead the opinions and judgments of men, whose caution and discernment were entitled to much respect. Gaubius, Sauvages, Vogel, Cullen, &c. have severally presented nosological arrangements, that have been adopted, and have become, in a greater or less degree, popular, as their respective advocates have found reason to be satisfied with their practical correctness and utility. Weighty objections have been felt and urged against the accuracy of the distinctions proposed by those nosologists; but that which is most authoritative, is the impossibility of grouping any set of symptoms that can uniformly and

conclusively distinguish one disease from another. Unhappily for the interest of the medical art, diseases have been arranged under certain denominations that are supposed to convey precise distinctions as to the particular nature and tendency of the disease so named. It is obvious that no name can fully describe the real character of a disease; and, if it could, the circumstances necessary to produce such a disease will not present with sufficient constancy to warrant the application of such a name. If the name, therefore, possesses no certainty on which could be infallibly rested a real distinction of disease, the instances of misnomer in nosological designation must be so frequent as greatly to lessen, if not wholly to destroy, their practical utility.

Nosologists do not appear to have duly considered the changeful state of vital action in the progress of disease, but to have gratuitously imagined that the same condition of living power prevails during the whole course of a morbid process. It is notorious that ailments commence with inflammatory violence, and speedily run into a state of debility that at once reverses the nature and character of the disease. Were the treatment that would be proper for inflammatory violence to be continued under the fallacious guide of a name implying that state, the result would probably be destructive of life. In low remittent fever,—in dyspeptic irritation, with its manifold and extensive sympathies,—in the various painful affections proceeding from the debilitated, tremulous, and irregular action called spasm,—much of the inflammatory aspect of disease may arise; and, if the symptoms should coincide with the factitious grouping that nosologists have held to be characteristic of that state, a mode of treatment would be instituted that would be more likely to aggravate than to benefit the complaint. The vascular struggles connected with a morbidly-irritable state, proceeding from great debility, are often so active and so acutely painful as to induce a suspicion of their being inflammatory. Were such symptoms to be so denominated, it would suggest a mode of treatment that could not fail to be seriously detrimental.

In disordered sensibility, from the highest state of mania to the lowest ebb of feeling, various degrees of morbid sensation will arise, in which ample range is afforded for distinguishing what instances may be referable to deficient, and what to excessive, nervous energy. It would require an acumen surpassing the utmost nosological skill to apportion the precise force, and peculiar form of disease, that could be intelligibly expressed by any name that could be employed. The different degrees of affection presenting under such

circumstances must be sought out, and ascertained by direct and close observation ; from whence alone can be inferred conclusions that would be safely and usefully practical on the subject.

The intelligent physiologist must not regard medical nomenclature as a landmark for his direction, nor as a nominal epitome of the various forms of diseased action. He must take his stand on higher ground, and be decided only by actual occurrences, deliberately examined by the most guarded and attentive observation. From this source alone can be derived an adequate authority for appreciating the nature, and determining the treatment, of disease.

The usage of name, in considering and reporting disease, is so familiar, that it must be complied with to a certain extent. Popular explanations will require it ; but it is an object devoutly to be wished that medical practitioners would not be influenced by mere name, but be deliberately occupied in investigating the true nature and character of the disease, which alone can suggest such indications of cure as would be either worthy of science to adopt, or safe for the patient to undergo. No one conversant with the practice of medicine can doubt the numerous instances that occur of the disastrous influence of name in the treatment of disease. Too much attention is commonly directed to the class, the order, or variety of affection, to which an ailment should be referred ; an anxious desire is shown to determine by what name the complaint should be distinguished. When this point has been settled, the treatment is confidently founded on the admitted correctness of the adopted name. Thus, if the disease is held to be inflammatory, and if one viscus is more particularly affected than another, the affection is named accordingly : if the brain, it is called phrenitis ; the heart, carditis ; the lungs, pneumonia ; the stomach, gastritis ; the intestines, enteritis ; the liver, hepatitis, &c. &c. Should the notion entertained of the state of the disease be correct, the nominal designation given to the particular viscus that may have either originated or concentrated the force of the disease might be practically useful ; but, if any fallacy should arise in regarding the disease as inflammatory, and if it should prove to be radically spasmodic and of typhoid tendency, the treatment that would be applicable to the one would be inadmissible in the other ; yet it is known how far the authority of a mere name often goes in governing the management of disease. To preclude the risk that must necessarily attend medical practice founded on the nominal distinction of disease, it would be better to enter on the treatment under the strict guidance of the

symptoms that may actually occur, leaving the epithet of name out of consideration, until the progress of the affection shall have developed appearances too minutely to admit of any possible doubt as to the true and explicit designation of the ailment.

The name of a disease, abstractedly considered, is no more than that which is attached to any other object, for the convenience of particular distinction : it conveys no satisfactory information of the nature of a disease, any more than the name of an animal, a vegetable, or a mineral, does the intrinsic and characteristic qualities of those several substances. The assemblage of symptoms that is supposed to be expressed by a nosological appellation may not be individually and collectively present ; and, if they were, they furnish no certain criterion by which to estimate the true nature and character of the disease. The difficulty is forever recurring respecting the vast variety of constitutional action that might have induced the prevailing symptoms. If constitutions, widely varying in degrees of vital power and active resources, should, under certain circumstances of diseased excitement, produce symptoms very analogous to each other, yet the fundamental dissimilarity of their origin must be accompanied by a corresponding difference in their respective nature and mode of cure. Symptoms evincing undiminished vital power immoderately excited, however classed or named, too obviously require suitable reduction to need any nominal distinction to enforce it ; and, where an enfeebled state of vital power is inordinately excited, the indication of cure will be afforded by considering the extent to which the vital energy may have been diminished, independently of any claims arising from any name that may have been given to the attending symptoms.

In fact, and in truth, diseases themselves, and not their artificial designation, are the legitimate objects of medical practice ; and, although nosological arrangements may be creditable to the benevolence and industry of science, it will not be denied that they tend, generally speaking, rather to confound and mislead than to elucidate difficulties, and clearly point out an appropriate mode of treatment in the various and equivocal aspects of morbid affection to which human existence is incessantly liable.

Taunton; Sept. 19th, 1818.

For the London Medical and Physical Journal.

Exposition of a Libel upon the Memory of the Ancients; by
GEORGE FREDERIC COLLIER, Esq. Secretary to the Swansea
Medico-Chirurgical Society.

HAVING, from my youth, entertained a considerable degree of veneration for the ancients, and more particularly for Galen and Hippocrates, I was much surprised to hear with what contempt they are spoken of by the different lecturers in the schools of this metropolis. Some degree of indignation was, however, added to that surprise, when I heard them dogmatically assert that the ancients did not know that the arteries contained blood. This assertion, after reading their works, I cannot believe; and, as I am given to understand that this erroneous opinion is very prevalent and inculcated in other schools, I trust it will be a sufficient apology for offering these remarks to the public. Their object is to show, that Galen not only did not believe that the arteries contained air, but likewise that he made experiments to ascertain their structure, which have not been excelled in ingenuity even by Harvey himself.

Though well aware how extremely deficient the ancients were in physiological knowledge, I cannot consent to hear the above accusation brought against them without denying it; considering it as a scandalous libel on their memory.

If we refer to the book which Galen wrote to show "*an sanguis in arteriis natura continetur,*" we shall find him completely master of his subject, and proving to us (to use his own expression) that the "arteries do by nature contain blood, as sure as that fire is hot and snow is cold;" we shall find him clearly demonstrating the absurdity of the contrary opinion entertained in his time by Erasistratus and his followers. Even Erasistratus, however, was not so blind as to suppose that the arteries did not contain blood: his idea was, that they contained blood and a subtle spirit; and we, therefore, learn from Galen, who very closely examines the plausibility of this opinion, that he gravely disputed whether, on making a wound in an artery, the blood or the spirit would first escape. It will not be requisite to make numerous quotations to prove what has been advanced; let the following, therefore, suffice:—

"Ubi funiculo nudatam arteriam utrinque ligavimus et quod in medio comprehensum fuerat incidimus, sanguine plenam ipsam esse monstravimus." By this experiment, then, he proves that arteries contain blood, and nothing else; and, after endeavouring to show that they possess a contractile

power of their own, he thus proceeds:—"Quibus si etiam unum (experimentum) addidero quod è corporum dissectione collegimus finem dicendi faciam. Est autem id quod dicimus ejusmodi: arteriam unam è magnis et conspicuis quamquam nudabis, primoque pelle remota ipsam ab adjacenti suppositoque corpore tandiu seperare non graveris, quoad funiculum circumdare valeas; deinde secundum longitudinem arteriam incide, calamumque et concavum et pervium in foramen intrude; vel æneam aliquam fistulam quo et vulnus obturetur et sanguis exilire non possit. Quoad usque sic se arteriam habere conspicias, ipsam totam pulsare videbis; cum primum verum obductum laqueum contrahens, arteriæ tunicas calamo obstrinxeris non amplius arteriam ultra laqueum palpitare videbis; etiam si sanguis ad arteriam quæ est ultra laqueum, sicuti prius faciebat, per concavitatem calami feratur. Quod si propterea pulsarent arteriæ, pulsarent etiam tum partes quæ sunt ultra laqueum; sed non pulsarent, igitur perspicuum est, quoniam moveri posse desinunt, *non per spiritum in concavitatibus discurrentem sed ob virtutem intunicas transmissum arterias a corde moveri.*"—Vide Librum GALENI en *Sunguis Arteris*, &c. sec. x. et passim.

Thus, it plainly appears that Galen did know that the arteries contain blood,—nay, that he knew more: that he dissected their coats, ascertained their structure, and has left upon record experiments in proof of their muscularity, which even Harvey confesses himself unable to refute, although of a different opinion. I have been more particular in making this last quotation, because (as far as I know) this experiment is not mentioned by any of the lecturers, and because it is undoubtedly a strong proof of the opinion entertained by one part of the medical world,—viz. "that the arteries are muscular." It will not be necessary to quote other ancient writers to support my argument; Galen's testimony is sufficient, who says that Erasistratus, *et ejus sectatores*, were the only men in his time who believed that the arteries contained any thing but blood. It is not merely in the book above quoted that Galen speaks of the nature of arteries; in his books "*de Hippocratis et Platonis dogmatibus*," we find a recapitulation of his opinions.

There can be no claim to ingenuity in these observations, for the works of Galen are accessible to all: my only object in writing this paper is to endeavour to correct an error which has arisen from a servile deference to derivation, and to show that it is as unjust and uncharitable in us to accuse the ancients of not understanding the nature of arteries, because the appellation they gave to them is incorrect, as it

would be for our posterity to bring the same accusation against us, since we also still retain the same unmeaning term.

Hartley, in the preface to his work "de Motu cordis et Sanguinis," does Galen the justice to acknowledge that he was not ignorant of the structure of arteries; and seems to have paid more attention and deference to his experiments and observations than to those of any other writer. He reproaches the physicians of his time who accused this ancient author of the ignorance above alluded to, and asks, who can be so foolish as to doubt Galen's knowledge of the contents of arteries, when he reads his observation—that "ab una arteria dissecta unius semi hora spatio, totam messam sanguinis ab universo corpore, magna et impetuosa profusione, exhaustam fore."

St. Paul's Church-Yard;
December 2, 1818.

For the London Medical and Physical Journal.

Cases illustrative of the good Effects of Nitrate of Silver in various Diseases; by WM. BALFOUR, M.D.

WM. BROWNLIE, aged 61, late a serjeant in the 21st or Royal Scotch Fusiliers, struck his right shin against some piece of furniture, when in a state of intoxication, on St. Patrick's day, 1802, in the Island of Barbadoes. All the efforts of the surgeons to heal the wound proved unavailing, not only while the regiment remained in the West-Indies, but after its return to Europe; and Brownlie was discharged, at the age of 44, on two shillings a-day. This man came under my care on the 12th of May last. The ulcer, which had remained open all this while, now extended from the inside of the middle of the tibia, obliquely downwards and outwards, the length of six inches, and about two in breadth. The edges were extremely thick in some places, and jagged in others; the discharge was copious, of a reddish-brown colour, and as thin as water. The whole limb was enormously swelled, from the points of the toes to the knee, with innumerable cracks in the skin, from which a scorbutic sanies oozed, that corroded the neighbouring parts.

I directed the limb to be washed with a solution of acet-nitrate of lead every day, and the abraded parts to be dressed with ung. hydrar. nitrat. The cavity of the ulcer was filled with soft rags; and a bandage was applied over all, with a considerable degree of tightness, from the points of the toes to the knee. But my hopes of effecting a cure de-

pended solely on the change that nitrate of silver might produce on the quantity and quality of the discharge; I therefore prescribed a quarter of a grain of this medicine, in the form of pill, four times a-day. I visited the patient every day; saw the sores dressed, and applied the bandage with my own hands. At first, the discharge was so copious and thin as to transude any quantity of dressings that could be applied: in the course of a fortnight, however, it became as thick as cream, white and bland. I had now no doubt of being able to cure this shocking inveterate ulcer.

In ten weeks, and after the patient had taken fourteen dozen of pills, the wound was closed; nor was the patient's general health, which was uniformly good, in the least affected by it. An open sore, indeed, of whatever kind, must always be prejudicial to health; for, in proportion to the extent of surface and quantum of discharge, absorption must take place of a matter which cannot fail to contaminate the whole mass of fluids. Hence the rapidity with which the disease runs its course, after ulceration has commenced, in consumption; hence it is that no person who has an ulcer exhibits a healthy countenance.*

Edinburgh; Nov. 1, 1818.

For the London Medical and Physical Journal.

Case of Phlegmasia Dolens; by THOMAS INGRAM RAYNER, Esq.

I WAS called to see Sarah Field, (residing a little distance from Wakefield), who was delivered of her first child three weeks before, and who had got what her attendants termed a swelled leg: they had fomented it with warm water, by advice of the former medical attendant. When I saw her, the left leg and thigh were twice their natural size, of a deadly white colour, but very hot and dry to the touch; and she complained of a great deal of pain in the left labium pudendi, where it began first, and, thence proceeding down the limb, contracting the muscles on the inner side of the thigh. There was great irritation in the system; the appetite was impaired; the pulse quick, and the tongue parched and brown.

* We recal the attention of our readers to the instances formerly related by Dr. Balfour of the efficacy of the same valuable remedy, which were transcribed from the Medico-Chirurgical Journal into one of the Numbers of our last volume.—EDIT.

I ordered her ten grains of pulvis ipecacuanhæ compositus at bed-time, and to take plentifully of diluting liquors; and, in the morning, a saline purgative of magnes. sulphas. $\frac{3}{4}$ i. liq. ineuthæ sativæ, $\frac{3}{4}$ viii. three table-spoonfuls to be taken every three hours; and the limb to be rubbed with camphor $\frac{3}{4}$ ss. dissolved in ol. olivæ, $\frac{3}{4}$ v. night and morning; after which it was to be wrapped in a flannel bandage. These measures answered better than I expected; for in three days the limb, from the foot to the knee, was not above its natural size, and the patient's general health was nearly restored. In a fortnight's time, she had perfectly recovered her usual health, the thigh only being a little larger than common, but which subsided in the course of a week.

Barston-square, Wakefield;

Sept. 4, 1818.

For the London Medical and Physical Journal.

Nosological Strictures; by T. PARKINSON, M.D.

I BEG leave, through your Journal, to make some practical observations on a paper by Nathaniel Rumsey, giving an account of a "singular rheumatic affection, of an intermittent type."—Vide the *Edinburgh Medical and Surgical Journal* for July, 1818, page 342. I, at the same time, solicit the attention of your readers to a comparison of inflammatory affections in general with the case of Mr. Rumsey, who observes—"Several years ago, after recovering from a sore throat, which got well without producing ulceration or slough, I became ill from exposure to cold. Fever came on in the afternoon, with a violent pain of the abdomen, a great sense of distention and actual enlargement, with great flatulence. My own sensation was, that nothing would give relief but evacuations. An enema was given, with little or no good effect; yet, in the course of a few hours, I fell asleep, and awoke in the morning almost well, not expecting any renewal of disorder. But on the next evening I found myself suffering again precisely in the same manner," and so on for three successive days; after which he began to suspect intermittent rheumatism of the abdominal muscles, took the bark, and escaped the paroxysm on the following day. He adds, "My speedy recovery convinced me that the attack was intermittent rheumatism, not inflammatory, as might with reason have been suspected." Again he says, "I thought it a remarkable fact, not aware that rheumatism affected the muscles of the abdomen in this

way; and still more remarkable that, by their vicinity to the bowels, without any intelligible or direct communication, the viscera should be also affected, as the flatus and distension proved."

His own case is followed by one similar in symptoms and situation; succeeded by another of the same character, intermittent, but situated at first in the face and teeth, but ended in the abdominal muscles. The bark was the efficient remedy.

The observations I wish to make, I shall limit to such as have been deduced from practical facts.

1. *Rheumatismus* is a term intended to denote inflammation of the moving solid, called muscle; and all muscles, be their form or situation whatever they may, are the subjects of it, not excepting the heart.

2. Inflammation of the moving solid; as well as inflammation of any other solid, attacks with different degrees of violence; but, in almost all cases of *rheumatismus*, evident remissions are discoverable, and that even in the beginning and early progress of the disease; and it is further to be observed, that, when any individual muscle is attacked, the first symptom is acute pain of that muscle, much increased by its own action, which in many instances cannot be suspended, or even controled, by the will. Such pain is succeeded by a sense of coldness of the extremities, rigor, followed by increased heat, thirst, a quick and full pulse, and highly-coloured urine. After some hours, either a partial diaphoresis, or a general perspiration, anticipates a considerable remission of pain, and a concomitant diminution of the constitutional affection commonly called fever. After such remission, which may be of longer or shorter duration, the same muscle, or perhaps more commonly another muscle, is attacked as above described, followed by all the *consectaria pyrexia* of Cullen, &c. After some hours, a remission both of the local pain and the constitutional sufferings are remarkable; and again, another accession of inflammation, with all its *consectaria*: the disease thus alternating between a greater and a less degree of intensity.

In this manner the disease proceeds, until it wears itself out, or is removed by medical treatment; and, under either circumstance, it most commonly, perhaps always, after an uncertain period, assumes a new type—intermittent; that is, the intervals are of determinate durations, and totally free from pain and fever, though the paroxysms are more or less severe, the urine depositing a lateritious sediment.

It must be remembered, that the solid denominated muscle is not limited to that portion which is the acting or

contracting portion : it comprehends, also, all its modifications, the tendinous portion, the periosteum and the fascial portion ; it moreover appears that these modifications of muscle, especially the fascial and periosteal, are more acutely painful under inflammation than the body of the muscle itself.

Let it be observed, that this character of inflammation is not peculiar to the muscle ; it is common to all solids of the first order, as will be fully illustrated in my " *Synopsis Zoo-Nosologie.*"

This order is my first, which I have denominated **PLATY-MORPHIA**, from $\pi\lambda\alpha\mu\sigma$ and $\mu\nu\rho\phi\omega$. It comprehends all the solids in the animal system, excepting adipose substance and glands ; and, on a careful retrospect of practical observations, but more especially from future enquiries, it will, I doubt not, be acknowledged that inflammation in all of them is characterized by the same local and general symptoms, is governed by the same laws in its progress, and in its fatal termination ; viz.—the local inflammation is Erythema, and the constitutional affection Typhoid : consequently, the fatal termination is by gangrene and typhus.

As the first order of solids is Platymorphia, so the order of inflammation is designated by the qualifying adjective **DIFFUSUS**.

Inflammation is objected to as a classical term ; consequently the whole family,—such as Pyrexia, Phlogosis, Phlegmone, &c.—will be rejected in my *Synopsis*, and **HYPEROBOSIS** will be substituted for Pyrexia, as a classical term. Hence we have Hyperbosis diffusa for the class and order for inflammation in the first order of solids.

The second order of solids I have denominated **SPHÆRIMORPHIA**, from $\Sigma\varphi\alpha\mu\sigma$ $\mu\nu\rho\phi\omega$.

This order embraces adipose substance and glands only ; and, in strict conformity, I have denominated inflammation in this order Hyperbosis Spherica. Observe, that, in its progress and in its fatal termination, it is governed by the same inflexible laws ; viz.—assumes a circumscribable tumor, and terminates in abscess ; or otherwise, it resolves into another series, as Phylakesis or Symphylakesis.

The trifling difference in the symptoms of inflammation of the first order of solids, or Hyperbosis diffusa, depends chiefly, perhaps altogether, upon the anatomical construction of the solid which is diseased ; and it is worthy of remark, that inflammation of one solid is frequently mistaken for that of another, and consequently obtains a denomination at variance with the true nature of the disease : Pleurodyne for inflammation of the intercostal muscles, &c. for

instance: and, let me add, this affection is of the same identical character as inflammation of the abdominal muscles represented by intermittent rheumatism in Mr. Rumsey's case. So long, however, as inflammation of muscles is denoted by the term rheumatism, what is called Pleurodyne should be denominated Rheumatismus intercostalis.

But it is of the highest importance to give to diseases suitable and appropriate appellations, and such appellations should be strictly in accordance with a settled nosological nomenclature, of chaste derivation and determinate import; and, until such a nomenclature is established and adhered to, it will be impossible to free medical science from that opprobrious jargon which has so long infested it.

For the London Medical and Physical Journal.

Case of Death from Oxymuriate of Mercury ; by ADJUTOR.

THE frequent occurrence of suicide from corrosive poisons, and our imperfect knowledge of certain antidotes for them, makes every case, whether of fortunate termination or not, a subject of considerable importance, not only in a pathological, but also in a juridical, point of view. Should the relation of the following case be considered worthy a place in your Journal, I shall consider myself honoured by its insertion.

In company with a friend I had the pleasure to assist, I visited, on January 22 of this year, at 11 o'clock P.M. a servant-girl, of short stature and robust habit, who, in consequence of some disappointment in love, formed the determination of destroying herself; and, after eating a hearty supper of bread and cheese, with cold bacon, and a quantity of malt liquor, dissolved about a drachm of hydrargyri oxymurias, and immediately swallowed it. A few minutes had scarcely elapsed, before the family were alarmed by the groans of the girl, whom they found on her knees complaining of a most severe burning pain at the stomach, extending upwards into the throat and mouth. This was soon followed by violent vomiting of what she had taken for supper, mixed with large quantities of viscid mucus, which before our arrival had filled a good-sized chamber-pot. Half a drachm of zinci sulphas was immediately given, and succeeded, from time to time, by warm water beat up with whites of eggs, gruel, &c. The emetic was repeated in an hour after. Upon the exhibition of the albuminous liquor,

the evacuations put on that flaky, curd-like appearance spoken of in M. Orfila's system of Toxicology.

At 3 A.M. the vomitings were of a bilious kind, mixed with blood. She had also about this time three stools, of a dark and highly-offensive kind. Pulse 100, small, and tight. After this the pain abated, and she dozed at times, but was aroused by a recurrence of the pain. Countenance expressive of the greatest anxiety. At 9 A.M. I left her apparently better. As her bowels had not been opened since three o'clock, an oleaginous aperient mixture was ordered, with fomentations to the epigastrium, and a continuance of gruel, white of eggs, &c. Saw her again in the evening : pain in the stomach easier, but complains of the throat, which is greatly inflamed. A cooling gargle was ordered for her, and glysters to be given every two hours.

23d, 3 P.M.—Bowels have not yet been acted upon, nor has she made any water since yesterday morning ; no tension of the abdomen, neither does pressure produce pain. The catheter was with some difficulty introduced, in consequence of the inflammation and thickening of the urethra and bladder : a few drops of urine only escaped. Saline aperients, with diuretics, were ordered, and the glysters to be continued.

24th.—The bowels have been acted upon, but no water secreted upon again using the catheter. Stomach easier ; but the throat continues inflamed, and with a sense of constriction, so as to prevent swallowing without considerable efforts. The system slightly affected with the absorbed hydrargyrus ; teeth painful, and rather loose ; saliva rather increased in quantity. To have beef-tea and other mucilaginous drinks frequently.

25th, 9 o'clock A.M.—Found her sitting by the fire, and, in answer to my enquiries, says she is better ; but, upon more attentive examination, evidently sinking. Has had frequent stools since yesterday, of a dark and highly-offensive kind. System more affected ; teeth very loose, and a large discharge of saliva ; breath exceedingly fetid ; very little pain on pressure of the abdomen, which is not sensibly tumefied. Pulse scarcely to be felt ; and countenance indicative of great debility. Catheter introduced without any water being discharged, and returned of a dark-blue colour, which required considerable friction with chalk to remove.

From this time she gradually became more exhausted, and, without experiencing a return of the pain, died on Monday at 3 P.M. about ninety hours after the ingestion of the poison.

I regret that business of a particular kind prevented the

examination of the body till early on Wednesday morning, when the putrid state of it presented too many obstacles to be easily surmounted. Upon inspecting it, the most offensive odour exhaled from it I ever experienced. The abdomen was greatly distended, and of a very dark colour. The face was much distorted, and the mouth filled with viscid phlegm.

This case demonstrates, that, notwithstanding the excellent account given by M. Orfila of the action of albumina on the hydrarg. oxymurias, we are not to consider it as possessing the power of completely decomposing it, so as to form an inert preparation of that metal; and consequently it becomes every practitioner, when called to a patient having taken it, to expedite its expulsion by every means most likely to do so. Albumine should, however, on no account be left unused; the effect it had in this case of allaying pain was certainly great.

How far this salt may be given in patients labouring under diabetes, I have not had an opportunity of trying. In some cases of poisoning from hydrargyri oxymurias, related by Mr. Valentine, in the Edinburgh Medical and Surgical Journal, the effects produced upon the urinary secretion and bladder accord precisely with what I have now given.

Dec. 19, 1818.

For the London Medical and Physical Journal.

Case of Incontinence of Urine, cured by Tinctura Lyttæ; by JOHN MACLEAN, M.D. Edinburgh.

HUGH MITCHEL, a brewer's drayman, aged 42, had been addicted for several years to excess in spirituous liquors, and ultimately became affected with incontinence of urine; which had continued for a year when he applied to me for advice, in a state of great distress from the disease, and despondency of recovery.

Attributing the complaint to relaxation of the urinary passages from habitual intemperance, I directed him to abstain entirely from spirituous liquors, to live chiefly on animal food, and to use cinchona, sea-bathing, &c. with a view to restore the tone of the debilitated organs. This plan, however, having been strictly pursued for a long time with little advantage, I prescribed the tinct. lyttæ in small doses, gradually increased to twenty drops three times a-day, combined with demulcent drinks. In a few weeks slight strangury supervened, but subsided on discontinuing the tincture; and shortly after, by perseverance in the re-

gimen directed, and the occasional use of the cantharides, he became entirely free from the incontinence of urine; and, during a considerable interval which has since elapsed, has had no return of the complaint.

Edinburgh; Nov. 6, 1818.

For the London Medical and Physical Journal.

On the Buffy Coat of the Blood during Inflammation, in Answer to Mr. Lanyon; by a Member of the Royal College.

I FEEL much diffidence in trespassing upon the important pages of the Medical and Physical Journal, in order to elucidate the advantages derived from using several vessels to receive the blood, in blood-letting in inflammatory diseases.

Mr. Lanyon should have consulted authors before he put the question to the profession, and he would have found that, in all inflammatory diseases, the first-drawn blood scarcely ever shows any of the buffy coat, unless a very considerable portion is abstracted at once in a single vessel. I invariably adopt a practice, which I have ever considered too general to need publication, of permitting the blood to deposit in several vessels (tea-cups are the most proper), by which I have been better enabled to distinguish the stage or extent of inflammation. We never can draw a fair inference by allowing the blood to flow into a single vessel; for the flow of the blood at the commencement is generally sluggish and tardy, which allows it to coagulate very speedily, thus entangling those particles which afterwards swim upon the surface of the crassamentum, constituting this peculiarity, or buffy coat: presently the pulse, which before was labouring, and the arterial system much oppressed, rises from under the load of the constitution, the circulation is increased, and the jet of blood becomes uniform and steady. Now time has been allowed for the viscid and heterogenous ingredients to be more intimately united, the deposition is permitted to form gradually, and of course the buffy coat of the blood exhibits itself. This is constantly to be observed in bleeding patients during inflammatory stages of disease.

The blood may still be "homogenous throughout," notwithstanding Mr. Lanyon's accident "would seem to argue the contrary;" for he may, with the utmost decorum, divest himself of entering into "idle speculations or useless hy-

pothesis," by merely bringing to his recollection the laborious state of the pulse and consequent general depression, which never fail of being relieved during the flow of the blood. It would be a curious speculation, and probably not without some interest, to investigate the phenomena of the powers of life during venesection: it has been a subject commenced, but with very little advancement, owing probably to the inconvenience the subject of experiment, as well as the experimenter himself, would be exposed to.

Suffolk-street, London;

February 6, 1819.

For the London Medical and Physical Journal.

Examination of Mr. Samuel Young's Remarks on Mr. Astley Cooper's Operation of tying the Aorta; by C. R.

HAVING taken up the Number of the Medical Journal for March last, I was surprised at some remarks I there found, from the pen of Mr. Samuel Young, on Mr. Cooper's operation of tying the aorta. I was the more astonished at his observations, as, happening to be in town, I had the good fortune to witness an operation, which, for "delicacy and dexterity," could not be exceeded; and also to be present at the examination of the body after death. That the operation was required to save the life of the patient, Mr. Young admits; and to the manner in which it was performed he cannot raise the shadow of an objection: "but the points to which," says this gentleman, "I wish to draw the attention of your readers, is the apparent want of physiological deduction before, as well as pathological research after, the death of the patient."

As a former pupil of Mr. Astley Cooper, and one among his numerous admirers, I lament that such ill-founded accusations against a gentleman, whose unremitting zeal in his physiological and pathological pursuits is so well known to the world, should so long have remained without refutation; and shall endeavour to show that, of Mr. S. Young's charges, some are founded on an entire ignorance of, or inattention to, the circumstances of the case, and others on what appears to me to be erroneous physiology.

The first of Mr. Young's objections,—viz. "want of physiological anticipation," seems to arise from Mr. Cooper not relieving the evidently-overcharged vessels of the head by blood-letting, by opening one or both jugulars. In answer to it, I shall merely request the attention of your

readers to a few extracts from the "Surgical Essays," and leave them to judge whether the condition to which the patient was reduced by repeated losses of blood would have allowed one or both jugulars to have been opened, without taking from him the small chance of life which the operation afforded him. The Report says,—he was admitted into the hospital on the 9th of April; on the 16th of May, the tumor suddenly increasing in size, he was ordered to lose twelve ounces of blood from the arm; on the 21st, twelve ounces more were drawn; on the 20th of June, he had a slight bleeding from the aneurismal sac; on the 22d, the bleeding returned; on the 24th, the haemorrhage again recurred; on the 25th, in consequence of a sudden mental agitation, he bled profusely, and, but for immediate assistance, would have expired. "At nine o'clock," says Mr. Cooper, "I found him so reduced that he could not survive another haemorrhage; and, to prevent a further loss of blood, with which he was every moment threatened, the operation of tying the vessel was had recourse to." After the operation, the report goes on to state, that he complained of pain not only in his head, but all over his body; his pulse was weak and fluttering; his faeces and urine passed away involuntarily; his body was covered with cold sweats; together with continual vomiting.—Such is the condition of a patient in whom it is recommended, by Mr. Samuel Young, to open one or both jugulars.

Mr. Young's physiological reasoning appears as incorrect as his practice, if pursued, would have proved destructive. Surely it would have been more becoming in this gentleman to have looked to his own physiological foresight, before hastily venturing the assertion that the consequences of a ligature on the aorta would be "the retrograding the whole circulation back into the vessels of the head and chest, except such portion as would escape by collateral vessels to circulate through the lower extremities."

Before attempting to controvert this unsupported opinion as a physiological point, I will lay before your readers the examination of the body, that they may see how far appearances accord with Mr. Young's opinion. Let it be remembered that the ligature was situated three quarters of an inch above the bifurcation of the aorta, and consequently below the superior and inferior mesenteric arteries: if the whole mass of blood had been retrograded into the vessels above the ligature, surely those arteries situated immediately above the impediment to the progress of the blood would have been most gorged, and we ought to have found those

parts supplied by the mesenteric arteries particularly tinged with blood; but the intestinal canal was not only free from inflammation or congestion, but remarkably exsanguineous, as were the other abdominal viscera. The thorax I saw examined; and neither the heart nor lungs were more loaded with blood than usual. Why the head should be more likely to be incommoded with vascular determination than the thorax or abdomen, Mr. Young should have pointed out; and he would then have offered something like an argument to substantiate his assertions.

When a ligature is thrown about a vessel, is it a necessary consequence that the blood should take a retrograde course into the vessels above the obstruction to its passage, and thus produce in them a state of congestion?

Although the femoral artery be tied, the absolute quantity of blood in the limb is not diminished: it contains as much blood as before the operation; and the only difference produced in the circulation is a diminution in the rapidity of its passage through the capillaries, in consequence of its circuitous course through the anastomosing branches, and a consequent diminution in the heat of the limb. That the larger arteries of a limb, whose main trunk is tied, contain their usual quantity of blood, was shown by a case which occurred during my studies at the hospital. A man was admitted for a fungous tumor below the knee, for which the surgeon tied the femoral artery. A few days after, the tumor continuing to increase rapidly, amputation was had recourse to, and the whole of the vessels bled as freely after the operation as if the artery had not been tied. If the circulation in the arteries of the limb be rendered slower by the operation of the ligature, the return of blood in the veins must be proportionably retarded; and thus the right side of the heart will not be so freely supplied with blood, and congestion thus prevented; and, if the vessels of the limb contain as much blood as usual, what is there to produce that overcharged state of the general circulating system alluded to by Mr. Young!

Thus, then, it would appear that Mr. Young's conclusions as to the death of the patient,—viz. "that it arose from the congested state of the blood-vessels of the head, heart, and lungs, &c." are "entirely opposed to the facts of the case," and are at variance with the known effects of ligatures on arteries.

If the man's death were not occasioned by the determination of blood to the upper parts of the body, as I trust I have fully shown, we need not, surely, look for a more

satisfactory explanation of the cause than that offered by the author,—viz. want of circulation in the aneurismal limb. But, says Mr. Young, no gangrene took place. I would ask, what is the distinction between a limb assuming a cold and livid state, and the incipient stage of gangrene? If by gangrene is meant putrefaction, certainly I must admit that no such process had taken place; but the contents of the aneurismal sac were in a state of putrefaction. Mr. Young must have very extraordinary notions of the animal economy, if he can suppose that nature will not take cognizance of the circulation in a whole limb being permanently impeded, and can refuse to consider such circumstances as sufficient to derange, and at length destroy, the functions of the whole machine.

The operations and discoveries of eminent men rarely meet with the approbation of contemporaries: criticism usually falls with more severity on them, not, as Mr. Young says, because their errors are more mischievous in proportion to their eminence and utility, but because there are men who can seldom brook the superiority of others, and who feel a satisfaction in endeavouring to bring them down to their own level. Mr. Cooper's operation of tying the aorta will hereafter rank among the boldest and most important that modern surgery can boast of; and, though perhaps a few individuals may cavil, their attempts to diminish the merits of the operation must fail, from the futility of the objections that are brought forward.

Bristol; Jan. 18, 1819.

COLLECTANEA MEDICA,
 CONSISTING OF
 ANECDOTES, FACTS, EXTRACTS, ILLUSTRATIONS,
 QUERIES, SUGGESTIONS, &c.

RELATING TO THE

History or the Art of Medicine, and the Auxiliary Sciences.

Quicquid agunt medici,
 nostri farrago libelli.

Medical Knowledge of the People of the Tonga Islands.

(Continued from page 141.)

GITA (tetanus) is a disease very common among the Tonga people; but still more so among those of the Fiji islands, who, from their warlike habits, are more frequently in the way of it: they adopt, however, a remedy which the Tonga people have borrowed of them, and consists in the operation of *tocolosi*, or passing a reed first wetted with saliva into the urethra, so as to occasion a considerable irritation and discharge of blood; and, if the general spasm is very violent, they make a seton of this passage, by passing down a double thread, looped over the end of the reed; and, when it is felt in the perinæum, they cut down upon it, seize hold of the thread, and withdraw the reed, so that the two ends of the thread hang from the orifice of the urethra, and the doubled part from the artificial opening in the perinæum; the thread is occasionally drawn backwards and forwards, which excites very great pain and abundant discharge of blood. The latter operation Mr. Mariner has seen performed several times; but only twice for tetanus, arising in both instances from wounds in the foot: in these cases the spasms, but particularly the convulsive paroxysms, were exceedingly violent, extending to the whole body, neck, face, trunk, and extremities: but in neither case was the jaw permanently locked, though on every case it was violently closed for a few seconds. A native of the Fiji islands performed one operation, and Hali Api Api the other: they both happened at Vavaoo, at different times. In either case the disease came on suddenly, three or four days after the wound was received, which was from an arrow not barbed. The moment the symptoms became evident, *tocolosi* was performed. In the short space of two hours, one of them was greatly relieved, and the other in about six or eight hours. The following day, the one on whom Hala Api Api operated was quite well, and afterwards had no other attack; consequently the thread was withdrawn: but the other, on the second day, was not quite free from spasmodic symptoms, and a

paroxysm coming on, the seton was moved frequently, which in two or three hours gave him great relief, and he afterwards had no other attack; it was thought prudent, however, to keep in the seton till the fourth or fifth day, when it was withdrawn. The effect of this operation was a considerable pain and tumefaction of the penis, but which gradually subsided in about five or six days. The artificial openings in both cases healed spontaneously, without any difficulty.

These are the only two cases of tetanus, in which this operation was performed, that Mr. Mariner can speak of with certainty, having been an eye-witness of them. He heard of several others at the Hapai islands, at the island of Tonga, &c. some of which were equally fortunate. From what he has heard and seen of the success of this operation at the Tonga islands, he is disposed to believe that about three or four in ten recover by the aid of it. The Fiji islanders, however, speak of the happy effects of this singular mode of cure with much more confidence than the natives of Tonga; but, as they claim the merit of the discovery, they are probably rather too profuse in praise of it.

Tetanus is not the only disease for the cure of which the operation of *tocolósi* is performed: it is adopted also in cases of wounds in the abdomen, upon the mistaken notion that any extravasated blood in the cavity of the abdomen is capable of passing off by the discharge from the urethra. Mr. Mariner saw the operation performed once in this case; and, as the man was considered in a very bad state, and notwithstanding got well, the cure was attributed to this remedy. It is also performed for relief in cases of general languor and inactivity of the system; but, in such instances, they only endeavour to produce irritation by passing the reed without any thread or artificial opening. The present king had it thus performed on him for this purpose, and two days afterwards he said he felt himself quite light and full of spirits.

The natives of these islands are very subject to enlarged testicles, and for this they sometimes perform the operation of *boca* (castration). Mr. Mariner's limited observation on this subject does not authorize him to speak with any degree of certainty in regard to the precise nature of these tumefactions. Their mode of performing this operation is summary enough. A bandage being tied with some degree of firmness round the upper part of the scrotum, so as to steady the diseased mass, at the same time that the scrotum is closely expanded over it, an incision is made with bamboo just large enough to allow the testicle to pass; which being separated from its cellular connexions, the cord is divided, and thus ends the operation. They neither tie the cord, nor take any pains to stop the bleeding; but, if the testicle be not very large, and the epididymis not apparently diseased, they perform the operation by dissecting it from that body with the same instrument. The external wound is kept from closing by a pledge of the banana leaf, which is renewed every day till the discharge has

ceased, and the scrotum is supported by a bandage. A profuse hæmorrhage is mostly the consequence of this operation. It was performed seven times within the sphere of Mr. Mariner's knowledge, during his stay, to three of which he was a witness; not one of the seven died. One of these cases was that of a man who performed the operation on himself: his left testicle was greatly enlarged, being about five or six inches in diameter, and gave him at times severe lancinating pains. Two or three times he was about to have the operation performed by a native of Fiji, but his courage failed him when he came to the trial. One day, when Mr. Mariner was with him, he suddenly determined to perform the operation on himself; and it was not much sooner said than done. He tied on the bandage, opened the scrotum with a very steady hand, in a fit of desperation divided the cord and cellular substance together, and fell senseless on the ground: the hæmorrhage was very profuse. Mr. Mariner called in some persons to his assistance, and he was carried into a house, but did not become sensible for nearly an hour, and was in a very weak state from loss of blood: this affair confined him to the house for two or three months. There was one rare instance of a man, both of whose testes were affected with some species of sarcoma, to a degree almost beyond credit. When he stood up, his feet were necessarily separated to the distance of three quarters of a yard, and the loaded scrotum, or rather the morbid mass, reached to within six inches of the ground. There was no appearance of a penis, the urine being discharged from a small orifice about the middle of the tumor,—that is to say, about a foot and a half below the os pubis. The man's general health was not bad; and he could even walk by the help of a stick, without having any sling or support for his burden: it was specifically lighter than fresh water, and considerably lighter than salt water, so as to produce much inconvenience to him when he bathed. He died at the island of Foa, about two or three months before Mr. Mariner left Vavaoo.

As to fractures, and dislocations of the extremities, it may be said that there is scarcely any native but what understands how to manage at least those that are most likely to happen; for they are very well acquainted with the general forms of the bones, and articulations of the extremities. They use splints made of a certain part of the cocoa-nut tree; for broken arms they use slings of gnatoo. In fractures of the cranium, they allow nature to take her course without interfering, and it is truly astonishing what injuries of this kind they will bear without fatal consequences. There was one man whose skull had been so beaten in, in two or three places, by the blows of a club, that his head had an odd mis-shapen appearance; and yet this man had very good health, except when he happened to take cava, which produced a temporary insanity. Fractures of the clavicle and ribs Mr. Mariner never saw there.

On Anthropophagism. (From the Dictionnaire des Sciences Médicales.)

ANTHROPOPHAGISM (that horrible disposition of certain individuals, and even of whole nations, to employ the flesh of their own species as food,) has often excited the reflections of physicians and moralists, who have wished to discover the sources of so revolting an aberration from humanity.

Famine has been, without doubt, one of the most frequent, and most excusable, causes of anthropophagism. The Arabian AB-DALLATIF has left us a frightful picture of the effects of a famine in Egypt: the putrefied remains of animals, all the most disgusting of objects, were devoured with avidity. The want of food became so urgent, that flesh was torn from dead human bodies; children were strangled by their parents, for the purpose of feasting on their flesh; and bands of express anthropophagists traversed the whole country. It is only necessary to consult the histories of shipwrecks, in order to ascertain to what an extent excessive want may change the character and moral disposition of man; and, to remove all doubt of the existence of such horrors, civilized and, till then, sensible beings will be seen to have attended to nothing but the impetuous desire to calm the torments of famine, and have determined, by the indications of chance, which of their companions shall serve as food to the survivors.

A love of revenge has sometimes rendered men anthropophagists; and, although we may suppose that famine originally led hordes of cannibals to devour their prisoners, it cannot be denied that the fury of vengeance has, at least, perpetuated this crime amongst them.

I go to fight to revenge the loss of our brave fellows that were slain; I will be as merciless as the famished wolf; I will exterminate and devour our enemies; the tanned skins of their battered skulls shall hang in my dwelling; I will crush their wives and children, like the fearful storm of pouring hail; like the mighty thunder, will I consume their devoted villages:—such is an ancient war-song of the savages of Louisiana, and such is generally the spirit of those of all nations of cannibals: the battle-shout of the Iroquois is—"We go to devour our enemies!"

Religious opinions have also had some influence in producing the horrible custom of which we treat. Human sacrifices were in use among several ancient nations; and it was not strangers alone who were immolated, since parents delivered up the dearest objects of their affection, their own children, to the knife of the sacrificer. There is but one step from such an atrocious practice to that of anthropophagism; and the history of an almost-civilized people, the Mexicans, who, wanting none of the necessities of life, regaled themselves with the flesh of the human victims that were offered to their idols, proves that in them, at least, it was not famine that gave rise to such odious banquets.

A fourth and last cause of anthropophagism especially demands the attention of the physician and the legislator: it consists in a depravation of the will, which has become subjugated to a depraved appetite. Although examples of such a deplorable state are very rare, yet modern times have furnished us with several such instances; amongst which, that of an anthropophagist of the environs of Wilna, the history of which was published by Professor Gruner, of Jena, is one of the most remarkable.*

John James Goldschmidt, a cow-herd, was married at the age of twenty-seven, and continued to follow the above-mentioned occupation for twenty-eight years, without any other moral vices being remarked in him than a certain rudeness and grossness of manners, and a great inclination to violent anger. He was fifty-five years of age in the year 1771, when great part of Germany was oppressed with famine: this circumstance, however, cannot be considered to have influenced the crime of Goldschmidt, which was committed in a fit of passion, since he had obtained provisions the day previously to it; he was not involved in debts, and his yard was stocked with poultry. This unfortunate man met with a young traveller at the entry of a forest, whom he reproached with having worried his cattle; the stranger asserted that he had not done this: a dispute and contest followed, and Goldschmidt killed the traveller by a blow with his stick. In order to conceal this circumstance from the public, he dragged the body of his victim into a thick part of the wood, cut it into small pieces, and carried one of them with him in his bag every time he returned to his dwelling. It was in one of those journeys that the desire to taste human flesh first developed itself in him: he boiled and roasted some part, and ate of it, with his wife, to whom he described it as mutton. A year afterwards, he enticed a child into his house, killed, and ate part of it. The crime was discovered, and it was from the confessions of the culprit that the details we have given were obtained, besides many others still more revolting, which we have thought proper to pass over in silence.

This fact led Hermann Gruner to form some very judicious reflections on this subject, with an abstract of which we shall terminate this article.

However criminal murder may be, particularly when it is followed by anthropophagism, the reality of a state cannot be contested where this has been induced by a depraved appetite, independent of the will. Nothing is more astonishing than the caprices of pregnant women, whom an insatiable inclination leads to enjoy with delight the most disgusting objects. Here, a fault of education, or the empire of a perverse habit, cannot be accused as the cause of such an aberration. The most serious remonstrances have no effect when advanced in opposition to an

* *De Anthropophago Bercano, &c. in 4to.; Diss. Inaug. Med. Resp. F. G. A. Jacobi. Jenæ, 1781.*

inexplicable desire, the satisfaction of which is demanded by nature in the most urgent and irresistible manner. May not this be equally applicable to the appetite of some individuals for human flesh? Whatever may have been the original cause of it, it depends principally on a disordered imagination: the appetite once indulged, it becomes increased, and at length habitual.

Many other criminals, besides Goldschmidt, have conceived this ardent inclination for feeding on human flesh only after having committed homicide. This disposition has also several times appeared in women in the state of pregnancy; an horrible proof of which is related by Abdallatif. At other times, anthropophagism has been observed as a family-evil: Hector Boëthius relates an instance of this in his History of Scotland. A Scotch free-booter, his wife, and children, were condemned to be burned for having drawn several persons to their dwelling, murdered, and devoured them. The youngest daughter was, however, exempted from this sentence, in consequence of her tender age; but she had hardly attained her twelfth year, when, from having perpetrated the crime of her parents, she was submitted to the same punishment.—“Why do you express disgust at my conduct?” said this young monster to the spectators, who were testifying their horror and detestation; “if you knew how delicious human flesh was, you would all eat your own children!”

Let us conclude with Dr. Gruner, that such desires, the idea alone of which should make the most insensible of men tremble with horror, ought really to be considered as a state of disease; and that physicians should thus interpret them to the expounders of criminal law.

Relation of the Case of a Woman who voided the Bones of a Fætus out of the Side of the Abdomen; by Dr. CLARKE.—MS. Bibl. Sloan. 698, Pl. xviii. F.; in the library of the British Museum.

IN the year 165—, hearing by common report of a woman living in Denman’s-alley in Drury-lane, that had carried a childe eighteen years in her belly, and now excluded the bones of it, after an extraordinary manner, by an abscess in the side of her belly, my curiosity, among others, carried me to see her. I found her a woman of seven or eight and forty years; tall, strongly made, and appearing to have been of a good habit of body; she had been now some years a widow, getting her own and her daughter’s livelihood she had of about eleven years of age, by hard labour, going abroad to washing and scouring and such kind of work, until within some few weeks past; when she had lived by the charity of those whose curiosity brought them to see her.

I saw that she had two or three holes, from an abscess in the left side of the abdomen, near the place where the incision for a —— is usually made, out of which came matter and small bones, which had been the vertebres of a childe. I saw divers

others she then had in a box, being several of the bones of a scull, the shoulder-blades, ribs, vertebres, bones of the limbs, which had all been excluded from those holes in the abscess, and were the bones of a perfectly-formed childe; of which she every day excluded yet more. I had from herself the following story:—

That, about eighteen years before, having after, as she thought, gone her full time with childe, she endured two or three days of strong pain, without any hopes of being delivered; when one of the women, to give her ease, with a large towel compassing the bottom of her belly, lifting it up, standing behind her, upon which she felt some part, as she thought, break within her, and something removed from the bottom of her belly into her side. From this time she felt no more pain, and by degrees, as she thought, grew well: the swelling of her belly something diminishing, though continuing always considerably swelled in the left side.

After two years, or thereabout, she conceived, and in due time brought forth a female childe, which lived about two or three years: but after four years more, or thereabout, she brought forth another female childe, which was the daughter I then saw with her. She enjoyed her health well, until some few months before I saw her; when, having a great pain on that part of her belly, which continued swelled, she received from some one an oyntment, upon use of which, now being all inflamed, she often used poultices to the swelled part, which breaking and a great deal of matter running out. After some weeks, she found bones offer themselves to come out at the surface; and from that time, every day for the most part, took out some, until I think she had all the bones of a perfectly-formed childe.

“ÆMILIUS” would be obliged to any of our readers who would inform him if experiments have been made to ascertain the cause why blood drawn from a vein of a person who has been in a warm bath for ten minutes or longer, is of a florid red colour,—i. e. similar in appearance to arterial blood? and, also, why the blood which flows during the latter stage of the ordinary operation of blood-letting from the arm, has likewise a florid appearance? He, himself, imagines this to arise from suspension of the functions of the secretory capillary vessels; but would feel grateful for a reply to the above queries, or for any theoretical opinions respecting the cause of these phenomena; and also whether the notion he has advanced respecting it will not explain some of the effects witnessed from the use of the warm bath.

In the “*Philosophical Transactions*” for the year 1709, there is a relation of the case of a girl, sixteen years of age, who, about the end of April (1709), had some red pimples appear on her face, which subsided after bleeding and some purgative medicines. She continued very well until about a month afterwards, when her

face, "so far as is usually covered with a vizard-mask, suddenly turned black like that of a negro." Mr. J. YONGE, who relates the case, directed a lotion for her face, which removed the discolouration; "yet it returned frequently, but with no regularity, sometimes twice or thrice in twenty-four hours, sometimes five or six times. It appears insensibly, without pain, sickness, or any symptoms of its approach, except a little warm flushing just before it appears. It easily comes away, and leaves the skin clear and white, but smuts the cloth that wipes it from the face; it feels unctuous, and seems like grease and soot, or blacking, mixed; it has no taste.—She never had the *menses*; is thin, but healthful. The blackness appears no-where but in the prominent part of her face. It is now (Nov. 1) divided into a few dark cloudy specks, which appear but seldom, and not so livid as formerly."

Cassia Marilandica (American Senna). (From Dr. Barton's
American Medical Botany.)

CASSIA. *Cal. 5, phyllus; petala, 5; antheræ supremæ, 3, steriles; infinæ, 3, rostratæ. Lomentum,* (Willdenow).

Nat. Syst. Jussieu, *Leguminosæ*; classis xiv. ordo xi.

Nat. Ord. Lin. *Lomentaceæ*; classis *Decandria*, ordo *Monogynia*.

— **MARILANDICA.** *C. foliis octojugis ovato-oblongis æqualibus, glandula baseos petiolorum.* Willd.

Obs. *Foliola mucronata.* Legumen angusto-lineare, arcuatum, glabrum. Mich. Fl. Bor.

THE generic name of this plant is of Asiatic origin, and was brought into Greece along with the commercial article which it denoted, by the Phœnician merchants.* The specific appellation was given by Linnæus, in conformity with a common custom, (of which later discoveries have shown the impropriety,)—that of naming a new species of any genus from the particular place whence it was sent to him. Though the first specimens of *Cassia Marilandica* were transmitted to Linnæus from the state of Maryland, the plant is now known to be extremely common in almost every state of the Union south and westward of New-York. Inappropriate as the specific name is, however, it still does, and always should stand, unchanged.

The wild, or American, senna is a beautiful plant. It is about three or four feet high, with stems rising erectly from the root. The root is perennial, mostly horizontal, but sometimes perpendicular; contorted, irregularly shaped, woody, black, and covered with a multitude of fibres, also of a black colour externally, and yellow within. The stems many, often herbaceous, cylindrical, either entirely smooth or furnished with a few hairs. The leaves are alternate, rather long, green above, and pale underneath. Leaflets in eight pairs, ovate oblong, equal, and yellow on the margin; a gland at the base of the petioles. Flowers bright

* It is the קצ'ען of the Hebrews and other Orientals.

orange-yellow, in short axillary racemes, on the upper part of the stem. Legumes three or four inches long, a little curved, mucronate, bordered with conspicuous joints, and a few scattered reddish hairs.

This plant is pretty common, from New-York to Carolina, and, where met with, is generally abundant. Though it sometimes is found remote from water, it will always, I think, appear, on examination, that such situations are exsiccated swamps or meadows. It delights in a low, moist, gravelly or sandy soil, preferring the borders of rivers, creeks, and such watery places, to any other situations; and flowers from the last of June to the last of August.

Medical Properties.—Wild senna is now well known to be a valuable cathartic of the milder class. It is little, if at all, inferior to the senna of the shops.* Professor Hewson, of Philadelphia, informed me that he had used it occasionally, and with the same good effect as common senna; and I have had some experience with it in my own practice. At the Marine Hospital of the navy-yard, I have for some months past substituted it for Alexandrian senna, and have had reason to confirm the high character of the plant, which it has long maintained. The leaves alone have commonly been used; but I have employed the dried leaves and follicles, carefully rejecting the leaf-stalks, and recommend this manner of using the plant for medicinal purposes. I believe the best time for collecting it would be when the pods are ripe, which is about the latter end of August.

Since it appears that we do not obtain pure senna from Egypt, and that the adulterating plant, or *cassia senna*, is much inferior to our native species, it cannot be doubted that an admixture of the *cassia lanceolata* and *cynanchum oleæfolium* (which are the plants mixed with the true senna in Egypt, according to M. Nectoux,) with the *cassia Marilandica*, would afford a much better article than that now used, and at one-fourth of the price.†

* It appears by the researches of M. H. Nectoux, that botanists and writers on *materia medica* have hitherto erred in supposing the true senna of the shops to be the leaves and follicles of the *cassia senna* of Linnæus. This intelligent and industrious enquirer, instituted in Egypt a series of investigations respecting the senna, which resulted in the ascertainment of the fact that *cassia senna*, L. is in reality a weed, with which the real senna is adulterated in Egypt.

† The *cassia Marilandica* was introduced into England in 1723, by Peter Collinson, esq. It flowers here from August to October, Specimens of it are preserved in Kew-garden.

CRITICAL ANALYSIS
OF RECENT PUBLICATIONS,
IN THE
DIFFERENT BRANCHES OF MEDICINE, SURGERY, &c.

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London. Vol. IX. Part I.—Longman and Co. 1818.

(Continued from p. 156.)

IX.—Experiments and Observations on the Union of Fractured Bones; by JOHN HOWSHIP, Esq.

IN the detail of these experiments and observations we discern much minuteness of research, with correctness of exposition, highly valuable to the physiologist; but to which a curtailed abstract, unaided by delineations, would fail to do justice.

X.—Brief Notice presented to the Medico-Chirurgical Society, with the original Obstetric Instruments of the Chamberlins; by H. H. CARWARDINE, Esq.

The object of this notice is to establish the authenticity of the obstetric instruments deposited by Mr. Carwardine in the possession of the Medico-Chirurgical Society, as those which were the invention, and had been the property, of the Chamberlins. These instruments were discovered, two or three years ago, in a secret receptacle under the floor of a closet in Woodham Mortimer Hall, near Maldon, in Essex; which estate was purchased some time previous to 1683, by Dr. Peter Chamberlin, and remained in the possession of his family till about 1715. The instruments claim an interest from their former possessors, and bear, according to Mr. Carwardine, intrinsic marks of originality of invention.

XI.—Case of Aneurism in the Arm, cured by tying the Subclavian Artery; by Dr. POST, of New York. Communicated by Mr. Cooper.

A record of a successful operation on the subclavian artery, for the cure of aneurism extending into the axilla.

XII.—*A singular Case of Expulsion of a blighted Fœtus and Placenta at Seven Months, a living Child still remaining to the full Period of Utero-Gestation*; by JOHN CHAPMAN, Esq. member of the Royal College of Surgeons, and Surgeon in Windsor. Communicated by Dr. BAILLIE.

This very extraordinary deviation from the ordinary course of nature occurred in the practice of Mr. Chapman, in the month of October, 1816. His patient, Mrs. R. of Clewer, about the seventh month of pregnancy, was seized with haemorrhage and pains, which led to the expulsion of a foetus, about the usual size of those between three and four months. It was enveloped in membranes apparently unopened, but devoid of liquor amnii, and accompanied by its placenta. After this, the pains and haemorrhage subsided; and, though it was observed at the time that another foetus alive remained in the uterus, there was no recurrence of either. She was kept quiet, and completed the full period of utero-gestation, when a full-grown living female child was born. The preparation of the blighted foetus is deposited with the Society.

XIII.—*Some Observations on one Species of Nævus Maternus; with the Case of an Infant where the Carotid Artery was tied*; by JAMES WARDROP, Esq. F.R.S. Ed.

The species of nævus maternus which forms the subject of Mr. Wardrop's present paper, is the one which is situated under the skin, forming in the cellular structure betwixt the skin and the superficial muscles; and which, with propriety, he proposes to distinguish by the appellation of the subcutaneous nævus. This tumor is congenital, and not confined to any part of the body, though most frequently found about the face. Its limits are distinguishable by the touch, its form flattened, and at first it is freely moveable betwixt the integuments and muscles. The superjacent skin retains its natural colour till the tumor becomes prominent, when the large vessels shining through give more or less of a purple cast. When small, it has a doughy feel, and seems to have little sensibility; may be diminished in volume by squeezing it, and it enlarges when the child cries. This nævus has no distinct pulsation, but an universal throbbing perceptible on squeezing it. When the tumor is large, it has blood-vessels of a large size passing into it, rendering its removal by the knife extremely dangerous.

Sometimes the tumor is small, and continues stationary; sometimes it diminishes spontaneously; at other times it slowly increases, not putting on a serious aspect till late in

life. Sometimes, particularly when the tumor is small, ulceration takes place in the covering skin, and this, with part of the tumor, sloughs. The ulcerated surface finally heals, and, though some portion of the tumor may remain, its progress is arrested. Occasionally its appearance at birth is formidable; the skin, distended and discoloured, gives way, and a fatal haemorrhage ensues. On examination of one of these tumors, which Mr. Wardrop had removed, thinking it the only means of saving the child's life, the skin having given way, and haemorrhage to an alarming extent having occurred,—the structure was spongy, composed of cells and canals, into which the large vessels supplying the mass opened. The internal surface of these cavities was polished and shining; in some places bearing a resemblance to the cavities of the heart, having something like the *cordæ tendineæ*.

From the inapplicability of cold and pressure in some instances, and the danger of haemorrhage in the operation, the treatment of this species of nævus is seldom very successful. In a case where the tumor occupied the greater part of the side of the face and head, and ulceration had commenced, Mr. Wardrop was induced to tie the carotid artery, as the most probable chance of checking the supply to the morbid mass. The effect of the operation on the tumor was promising, and, though under very unfavourable circumstances of debility, gave hopes of success: the child, however, sunk on the fourteenth day, exhausted by the irritation of an extensive ulcerative process, and by previous depletion.

Mr. Wardrop concludes his observations on the nævus subcutaneus by some valuable practical precepts on the treatment, as suggested to him by his own experience in these cases. He says, "Tumors of this description may be removed by the knife, by ulceration, by absorption, by tying the vascular trunks supplying them, and by ligature: these different means being employed singly or combined, as may appear best adapted to the individual case."

When the tumor is small, or even of moderate size, it may be removed with safety from any part of the body by the knife, using especial caution in such cases not to cut into the tumor. By making the incisions beyond the bounds of the tumor, the haemorrhage is less considerable, and ceases after the extirpation of the diseased mass. When the ulcerative process seems preferable, it may be begun by destroying a central portion of the skin by lunar caustic or kali. Should the ulceration advance too rapidly, it may be powerfully controlled by the application of the balsam of Peru to the surface of the sore. Where the tumor is so

large as to render either of these modes of extirpation hazardous, it seems advisable, where it is practicable, to tie the trunks of the larger nutrient vessels ; whereby diminution of bulk will be obtained, and the risk of haemorrhage lessened, whether recourse be had subsequently to excision or the process of ulceration. Mr. Wardrop has not used the ligature, but he says that it has been once adopted by Mr. White with success.

XIV.—Mr. Wardrop has subjoined to his paper a *Cast of Aneurism by Anastomosis*, which was successfully treated by Mr. LAWRENCE. The disease occupied the first phalanx of the ring finger on the right hand, the chief swelling being on the palmar surface and ulnar side of the finger. The tumor had pulsation, which was stopped by pressing on the radial and ulnar arteries. These trunks were tied ; but after some time the state of the disease was just the same as before. Compression was ineffectual. Mr. Lawrence made a circular incision close to the palm, through all the soft parts, excepting the flexor tendons with their theca, and the extensor tendon. The digital artery, the pulsation of which had been very evident in the palm, was fully equal in size to the radial or ulnar of an adult, and was the principal nutrient vessel of the disease. After tying this and the opposite one, it became necessary to place ligatures on the other orifices of these vessels. The edges of the incision were brought together by four sutures, but the parts could not be very satisfactorily united, from the swelling of the part beyond the cut. The wound healed slowly ; the swelling subsided, but did not entirely disappear ; and the integuments recovered their natural colour. The pulsation and pain were put an end to. The natural powers of the part were so far recovered as to enable the patient to work some time at her needle, and to use the arm for most purposes.

XV.—*Notes of a Case of Mercurial Erethism*; by T. BATEMAN, M.D. F.R.S. &c.

We have in this communication a report of singular interest and value. The serious character of an affection which is sometimes induced by the very remedy on which we are reposing confidence for the removal of some other morbid condition, gives an importance to every occasion of extending our acquaintance with the disease ; but the case immediately before us presents a vastly-augmented interest, from its having occurred in the person of one so eminently qualified to mark the minutest agency of the poison on his

system, as the learned and scientific narrator of the case himself.

A course of mercurial inunction was entered upon, under the sanction of the first medical authority, with a view to relieve an amaurosis of the right eye, which had come on during the preceding summer, in connexion with a considerable derangement of the chylopoietic functions, and was commenced after a residence of three months at Brighton; during which time these functions and the general health had been materially improved.

A drachm of mercurial ointment was nightly rubbed in, and in about a week tenderness of the gums, with nightly febricula, were induced. The first notice of the deleterious action of the medicine upon the system appears to have shown itself in an attack of violent and irregular beating of the heart, which came on about four in the morning of the ninth day, and did not yield to laudanum and stimulants, but suddenly subsided about 1, P.M. A feverish state ensuing with much griping, and on the following day the irregularity of the circulation recurring, the mercury was omitted one night. Palpitation having gone off during sleep, and the feelings being more comfortable during the subsequent day, the friction was repeated at night; but, towards morning, the heart's action became again disturbed. This disturbance continuing, it was determined, in consultation, to desist altogether from the use of mercury for the present. The irregular action of the heart continued without remission for some days, with diminution of strength, though not so much as to prevent the patient from quitting the house. The stomach began to fail in its functions; flatus being generated, and cough induced, which, when violent, brought on retching, but not vomiting. The stimulus of spiced wine became necessary to subdue these symptoms. On the seventeenth day, the languor was considerably increased, from his having the preceding night been feverish and sleepless. From this time he was unable to leave the house. The languor, debility, and cough, rapidly increased, accompanied by a distressing sense of constriction across the region of the diaphragm: this, with the continuing perturbation of the heart, made it necessary to remain in nearly an upright posture, even during the night. It was necessary to augment the allowance of spiced wine to a bottle in the twenty-four hours. The nights were passed almost without sleep, from the disturbed circulation, the constant cough, and painful distension of the stomach by flatulence. In the night of the twenty-second day, being propped up on a couch, the action of the heart became once more regular,

and the succeeding day was passed with less suffering. On the following night, resuming the same position, the patient fell into a tranquil sleep for about an hour, when he awoke with a start, and with a momentary confusion of thought, calling out in apparent distress for the admission of fresh air. On the return of consciousness, the irregular action of the heart was found to have recommenced. The tranquillity of the preceding period had been attributed to extract of hyoscyamus, which was taken now without effect. Tincture of hop, which was substituted, produced only drowsiness. To obviate the increased languor and debility, supplies of food and cordials were repeated more frequently, and continued during the night. Again, during the night, a disturbed sleep of only a quarter of an hour was interrupted by a start and confusion, and a still more importunate demand for fresh air, which it became necessary to meet by opening the windows and doors, and drawing the couch into the current. Two subsequent nights were passed somewhat similarly; and on the following the interruption of a short sleep was accompanied by a sensation of sinking, which was felt as that of approaching dissolution. Fresh air was anxiously demanded, and undiluted brandy urgently called for: this was taken to the extent of three glasses in the course of five minutes, without much relief. Ammonia and aether were substituted, one or other of which was repeated every ten minutes for about two hours; when the faintness rapidly declined, especially after a very copious discharge of limpid urine. During this paroxysm, notwithstanding the total depression of muscular power, and the feeling of sinking to immediate death, the mental powers remained clear, the extremities warm, and the pulse (though extremely irregular, and not according exactly in its beats with the contractions of the heart,) was felt in all the extremities. A second and similar paroxysm occurred in about two hours, with still greater depression, which yielded again to stimulants, leaving, however, greater languor. It appeared that the action of the heart and arteries, extremely feeble and irregular whilst awake, was still more enfeebled during sleep, so as to be in fact almost suspended, and thus to occasion those alarming faintings and sinkings. It, therefore, became necessary to interrupt the sleep at the expiration of two minutes, by which time, or even sooner, the sinking of the pulse and countenance indicated the approaching languor. This interruption was necessarily continued for three weeks or more, the periods of permitted sleep being gradually extended. In this state of debility, the powers of the stomach seemed rapidly to fail, it being incapable of receiving the

accustomed solid animal diet. A grain of cayenne pepper was taken every hour for eleven or twelve hours. Extreme distress from flatulence remained, and the cough and faintings still continued to harass. Stimulants relieved, but the most marked advantage was derived from musk: this drug seemed to diffuse its stimulating effects through every part of the system. Cinchona was now used in several forms. The distressing symptoms recurred at intervals; and did not seem to abate until a change of diet was made, relinquishing the preparations of animal and vegetable food for asses' milk taken alternately with that of cows: these were, by slow degrees, changed for vegetable, and at length solid animal, diet. Each change, however, was attended by oppression and flatulence. With the quality of the food was gradually extended the periods of abstinence. Food was for some time required during the night; and the necessity of maintaining an erect posture continued during several weeks. A slow subsidence in the disturbance of the heart's functions took place, and regularity of action and muscular strength were by degrees re-established.

The interest of this case will, we trust, be such as to fully warrant this somewhat extended detail.

XVI.—On the Effect of Nitrate of Silver on the Complexion;
by Dr. BADELEY, of Chelmsford. Communicated by Sir
HENRY HALFORD, Bart.

In this case, the nitrate of silver was successfully administered for epilepsy, in doses of a grain to a grain and a half three times a-day, continued during a year and a half. The change in the colour of the skin occurred after the discontinuance of the medicine, and at the expiration of nearly two years retained its leaden colour. The bosom was somewhat darker than the face, with a purple hue. The roof of the mouth, inside of the cheeks, and back part of the tongue, dark; the tunica schlerotica, much discoloured. Blisters on the discoloured surface rose white. The patient had been free from any symptom of epilepsy during two years and a half.

XVII.—Case of an extensive Wound from the Bite of a Shark;
by Dr. KENNEDY. Communicated by Sir JAMES MAC-
GRIGOR.

A poor diver, in India, had received from the jaws of a shark a frightful laceration of the muscles of the abdomen, pelvis, and thigh. The cavity of the abdomen was extensively laid open, and the exterior of the pelvis and upper part of the thigh dreadfully mangled. By the skilful treat-

ment and solicitous attention of his surgeon, aided doubtless by a healthful temperament, this alarmingly-extensive injury was repaired, and the poor sufferer restored to his sphere of usefulness in society.

XVIII.—A Report of the principal Diseases which occurred among the Gentlemen Cadets in the Royal Military College at Great Marlow, Bucks, and Sandhurst, Berkshire, during a period of Seven Years; viz.—from 3d of September, 1809, to 2d of September, 1816. By N. BRUCE, Esq. A.M. Surgeon to the Forces, and to the Royal Military College.

In this collective view of the course and character of disease manifesting itself in an extensive assemblage of individuals, placed under almost similar circumstances of age, diet, and discipline, the reader of the Transactions will follow, with interest, the historical sketch, the medical comment, and the therapeutic doctrine, of the able reporter; but the extent to which our notice of the present volume has already gone warns us from entering on the particulars of a paper, which, from its nature, scarcely admits of abstract.

A Manual of Practical Anatomy, for the use of Students engaged in Dissections; by EDWARD STANLEY, Assistant-Surgeon and Demonstrator of Anatomy at St. Bartholomew's Hospital.—12mo. pp. 439. Anderson and Chase, London, 1818.

“THIS work,” the author observes, in a Preface, “is strictly for the dissecting-room. Its objects are to describe accurately the several parts of the human body, and to give practical directions for the most convenient method of dissecting them. It has no other plan but to arrange the several regions of the body in the order most convenient for their examination, and to describe each successively according to its natural situation. Let the reader, who turns from the perusal of systematic works to this Manual, recollect that it is intended only for practical beginners in the science, to facilitate their first difficulties, and to furnish them with the sort of instruction which they especially require.”

It is only necessary to remark, that Mr. Stanley has effected the objects he has proposed, and in a manner which, for precision and clearness, can hardly be excelled. We would apply part of the motto chosen by the author in a sense somewhat different from that in which his modesty has led him to employ it:—“*methodus sola ARTIFICEM*

ostendit;" and think that this work is not adapted for students alone, but that it may also be consulted with much advantage by those surgeons whose anatomical knowledge may have "grown rusty," previously to the performance of many operations.

The author has confined his observations solely to *anatomical* description; the uses of parts constituting another branch of knowledge, which should be subsequently acquired, and in *retirement* rather than in the dissecting-room,—as it is there alone that works written according to the ideas of Bordeu, will be productive of their full influence on the mind of the student.

An Enquiry into the Influence of Situation on Pulmonary Consumption, and on the Duration of Life. Illustrated by Statistical Reports. By JOHN G. MANSFORD, Member of the Royal College of Surgeons of London.—1818.

No enquiry which has for its object the means of circumscribing within narrower bounds so widely-spread, and so generally-fatal, a malady, as phthisis pulmonalis, can be met with indifference. Hitherto this disease seems to mock the unavailing opposition of the healing art; and he who shall afford a surer check to its merciless career, will be a benefactor of his race. The influence of climate in these cases appears to have been long and extensively acknowledged, if we regard the universal manumission which this unfortunate class of sufferers has been accustomed to receive: after demonstrating in almost every variety of locality the futility of medicine, and the baffled skill of their physician, then are they dismissed "to try a change of air." Little, perhaps, as may many of the selected places of retreat fulfil the delusive anticipations of their devoted visitants, it is, we are sure, quite reasonable to build a hope, nay to frame an expectation, on the auxiliary influence of local situation and climate in controlling pulmonary disease. But this aid should be courted in our earliest notice of the affection, not reserved as a dernier resort, when all our other means shall have been unavailingly exhausted. The circumstance that has, perhaps, almost exclusively operated in the selection of a residence for the consumptive patient, has been temperature; and this certainly is not one of the least important, for it is very manifest how noxious must be abrupt and violent alternations of external temperature on a frame so little fitted to resist the impression of such changes. But tempe-

nature is not the only influential agent, adverse or salutary, which claims our attention in the choice of locality for the treatment of phthisis pulmonalis. Mr. Mansford, in the present essay, has brought before our notice facts that imperiously direct our views in the consideration of this disease to the agency of atmospheric pressure. This circumstance, in its participation in the production of deranged actions in the animal economy, has ere now attracted the incidental notice of pathologists; but we believe that it has not before excited the full investigation and specific application which has been devoted to it by the author of the present treatise.

To establish the position that mere change of atmospheric pressure is decisive in its effects on the ordinary actions of the animal frame, Mr. Mansford has very properly recourse to those well-attested instances of obvious derangement occurring immediately on changes of pressure, at once rapid and considerable in extent. He says—

“The sensations experienced by aeronauts, and by those who have ascended high mountains, may throw some light on this subject. These sensations have been described as occasionally resembling those of intoxication. At others, great lightness and agility have been experienced, but soon terminating in weariness; haemorrhages from the nose and lungs; sickness; difficulty of breathing, and hurried respiration on the slightest exertion; a quickened pulse; painful distension of the eyes and ears, and palpitation of the heart. Dr. Halley relates of himself, that he experienced very painful feelings on ascending from a great depth in a diving-bell; the circulation not being immediately able to accommodate itself to the sudden removal of so great additional pressure.”

These are marked effects, readily cognizable and immediately deducible from an obvious cause. They are, it is allowed, extreme cases, and such as differ widely from the effects to be expected from the more gradual and more moderate transitions made by change of station on the common habitable surface of the earth. But similar effects will still be produced, modified only in proportion to the intensity of their causes; and, admitting them in the extremes, we cannot deny them in their subordinate gradations. The author shows, too, that ordinary variations of elevation in places of accustomed habitation influence, in a discernible manner, some of the leading phenomena of the living system. Thus he has found, by repeated experiment, that an elevation of five hundred feet, which is not an unusual difference in situations not remote from each other, has caused an acceleration in the pulse of five or six beats in a minute; and that any motion of the body has produced a greater corresponding increase of pulsations in the high situation

than in the lower one. If this (as Mr. M. justly remarks) be the effect produced on a system in full health, how much more considerable may it not be expected to be found when disease has weakened the controlling power of life, when the balance of the system is disturbed, and the delicate tissue of the lungs has become enfeebled or disorganized. An elevation of five hundred feet is considered to diminish the average of atmospheric pressure somewhat more than a sixtieth part, or nearly six hundred pounds on the surface of the human body :

—“and, although this reduction of pressure is not felt, it cannot be doubted but that the removal of so large a degree of resistance must give greater freedom of action to the main spring of the circulation, as well as a greater power of distention to the vessels themselves, especially, as was before remarked, to the superficial vessels: both of which causes, like all others, will operate most powerfully upon a diseased part.

“In such a state of the pulmonary structure, the action of its vessels, from their greater irritability, and their exposed and unprotected situation, will be increased in a ratio greatly exceeding that of the other vessels of the body; and, where a healthy person finds no change in his feelings, a patient thus circumstanced will experience oppression at the chest and difficulty of breathing, from the greater influx of blood into the pulmonary vessels.”

Mr. Mansford refers to observed effects on asthmatic and consumptive patients from change of atmospheric pressure, marked by a considerable variation of elevation in the barometric column. On two succeeding days, when an unusual rise in the mercury had taken place, he found in three patients, whom he made the subject of careful examination, a diminution in the frequency of the pulse of from eight to sixteen beats, with a very perceptible alleviation of distressing symptoms, betwixt a change of pressure marked by 28.3 and 29.1 of the barometer. The improvement was uniformly apparent in all the three. The result of this experiment was in a great measure undisturbed by simultaneous changes of temperature and moisture, which leaves it certainly in a more satisfactory state. Polypous tumors, it is observed, undergo a remarkable alteration of bulk during these changes of pressure of the atmosphere. Facts such as these leave little room for doubt that the general actions of a diseased or debilitated system are susceptible of a powerful influence from variations of pressure on its surface.

Assuming it, then, as a principle, that the progress of pulmonic disease, more especially phthisis, will be sensibly affected by permanent states of relative pressure, the author proceeds to investigate, on statistical reports, how far his

reasoning is borne out by the proportional mortality of consumptive patients in situations which differ considerably in elevation : and here there is an extraordinary coincidence, which gives a high value to Mr. Mansford's opinion, and almost carries conviction with his argument.

The county of Somerset, in which the author has chiefly pursued these enquiries, presents a variety of surface admirably fitted for affording a solution of the question which he had instituted. It distributes itself into two extensive ranges,—one of low and flat land, little elevated above the level of the sea ; the other a hilly tract, the general surface of which rises to a level of considerable height. From the several towns in these two districts, Mr. Mansford has collected reports of the number of deaths which have occurred in the space of one year from phthisis pulmonalis, with the proportion which these bear to the whole population of each place. The result of this enquiry shows a remarkable affinity betwixt the points of elevation and the mortality from consumption. Local causes, independent of atmospheric pressure, doubtless have their influence in modifying the general prevalence of the disease in certain situations ; but, in the range submitted to our immediate notice, the accordance is striking betwixt the increased frequency of phthisis and the more elevated situation of the local point. The period of observation is too limited, and the range of investigation may perhaps be too circumscribed, to warrant any general conclusions ; but the results here are too striking not to press the subject upon more extended notice. In the higher range of country, the mean elevation of which is estimated at about 674 feet, the average mortality from consumption appears to be 4.07 to 1000 of the living ; whilst in the low plain, which does not rise on the average above 45 feet from the level of the sea, the proportion of deaths from the same cause is not more than 1.52 to 1000 living. This is a difference so great as to make it an object of much interest to ascertain whether a more diffused examination of similar localities will furnish corresponding effects of situation.

" There is one circumstance of a practical nature arising out of this part of the present enquiry of vast importance. The relative prevalence of consumption, in high and low situations, although leading to an inference exceedingly satisfactory, does not afford a true measure of the effect which we may expect will be produced, by a removal to the one situation, of a person who has resided in the other. Where there is an undoubted predisposition to the disease, or where its admonitory symptoms may have already shown themselves, a removal to a lower situation, when

practicable, may avert it in the one case, and suspend its progress in the other: while, on the other hand, quitting the accustomed situation to reside in a higher one may call the disease into immediate action where latent, and give it new force where it has already commenced. The natural powers of the constitution, in the situation to which it has been habituated, may be able to maintain for a time the struggle with its deadly foe, and to postpone the visible advances of disease: but, if a powerful auxiliary be abandoned by removing to a more elevated scite, the disease, once set free from constitutional control, will run its course with fatal rapidity. A medical friend informs me, that two members of his own family sunk rapidly under pulmonary consumption, after quitting low situations to reside in elevated ones. A similar fate attended a medical gentleman, who practised some years ago at Wells, who fell a prey to the same disease shortly after leaving that city to practise in an elevated part of Gloucestershire. The universal fatality attending this disease in the numerous cases which are reported to have resorted to Richmond in Yorkshire, will also illustrate this part of my subject; and I think it will not be asserting too much to say, that, to remove to situations higher than that which had been previously inhabited, in any stage of pulmonary consumption, is to run into the very jaws of death."

Pursuing the enquiry into the comparative prevalence of the disease in low situations, Mr. Mansford finds that the immediate vicinity of the sea has some circumstance connected with it which countervails the advantage of a denser medium, and raises the proportion of mortality from pulmonary disease above what it appears to be in low inland situations. Places of this latter description, which enjoy a tolerably equable and somewhat warmer temperature, with a seclusion from the keen blasts of the north and east, are the situations to be selected for those who are actually suffering under, or who may have, a predisposition to pulmonary consumption. On reviewing various points in our own island, Mr. W. finds none which presents so many requisites for the residence of patients of this class as the low ground which extends southward from the Mendip Hills; of which he thus depicts the leading features:—

" Its geographical position is in the south-western part of the island. The shelter afforded by the range of hills towards the north, and the lowness of its level, while spots may be chosen just sufficiently raised above the marshy lands to escape the prejudicial and chilling influence of concentrated moisture, without being so high as to defeat the object in view, point it out as one of the most eligible. To these advantages of a physical nature may be added others of a more obvious and inviting character. The varied and romantic scenery of the neighbourhood does not fail to charm those who possess a relish for the beauties of nature; while

the tastes and habits of individuals may be gratified in the society of a city, or the seclusion of a village."

On the influence of temperature, which has hitherto been almost solely regarded in the choice of situation, the author shows, from collected reports, that the climate of the south, which is commonly hailed as the most auspicious to the consumptive patient, is not, even in those spots which have been resorted to in preference, so exempt from the disease as many situations in the more rugged climate of the north. But this difference Mr. M. ascribes to relative differences in altitude. This subject is of importance, and will, we trust, receive appropriate consideration from the profession generally; so that we may be put in possession of more numerous data on which to found some definite conclusions. If it can be unequivocally shown that a diminution of superficial pressure permanently abates, however trivially, the control over a disposition to morbidly-increased excitement; and that the actions of the system do not, in a little time, adapt themselves to the altered pressure, so as to regain their original rate; then shall we be assured that we have exchanged a vague and blind reliance on the fortuitous operation of unknown causes, for a rational and definite principle of action: a power hardly perceptible in its momentary action, incessantly applied, effects mighty results.

The second part of Mr. Mansford's essay is devoted to the consideration of the influence of atmospheric pressure on the general duration of life. In the former part, it has been shown to be powerfully operative in repressing the morbidly increased activity of the vital powers. At a period when the balance may be supposed to be nearly equal betwixt the moving powers and the resistance, to lessen the latter will be to give an increased force to the former. This will be the case where the resistance from superficial pressure is diminished; and thus will the actions of the machine be carried on with less expenditure of motive power. But statistical reports agree in showing the greater average longevity of the inhabitants of elevated situations. This may not altogether arise from the diminished pressure of a rarer medium; but this circumstance cannot fail to exert, perhaps, the largest share of influence; and it is a fair inference, therefore, to deduce, that, under a resistance diminished by an abatement of external pressure on the surface, the healthful actions of the animal body are carried on with less exhaustion of the vital powers.

But it is not necessary, in this place, to follow the author through all the facts that go to substantiate his opinions. They will not escape the scrutiny of the medical philosopher,

who, we are persuaded, will hold himself indebted to Mr. Mansford for the novel and rational views which he has presented in this interesting essay.

General Views relating to the Stomach, its Fabric and Functions; by T. C. SPEER, M.D. Physician in Bath.

IN this little tract the author has brought together the principal facts and doctrines respecting the structure and functions of one of the most important viscera of the animal economy. Proportionate to the importance of its office in the system, is the urgency of the claim which the stomach prefers on the attention of the physiologist and of the physician. So essential to the well-being of the general system is the healthy condition of this organ, and so widely and rapidly are propagated the effects of its functional derangements, that we are necessarily led to regard it, more than any other point in the human frame, as the source of health or as the focus of disease. The physiologist marks, in the function of this viscus, the first link in the connected chain of actions subservient to animal vitality: the pathologist, viewing the important and diffusive influence of the stomach, and its peculiar exposure to the agency of noxious causes, in the great majority of instances, has his attention directed hither, as to the centre of constitutional disturbance. Viewing the subject in these bearings, we are compelled to admit that it is one with which we cannot be too intimately acquainted; and, therefore, the present volume comes with a powerful commendation to notice, and, in many points of its execution, merits our regard; yet we must confess that the impression left by a careful perusal of it was, that the views which it gives of the subject are somewhat too general to contribute importantly to that minuteness of information for which the professional reader is in the habit of searching; but that it is rather calculated to satisfy the enquiries of the student of general philosophy. We do not consider that it will be unprofitably perused by the medical reader, but we think that it will come to him rather as a recapitulation of anteriorly-gathered knowledge, than as an extension of his acquaintance with the subject; and, as an elementary introduction to the junior reader, it wants something of precision and fullness of description, and clear exposition of ascertained facts demonstrative of the functions of the organ.

Practical Observations on the Nature and Treatment of Marasmus, and of those Disorders allied to it which may be strictly denominated Bilious. By JOSEPH AYRE, M.D. Member of the Royal Medical Society of Edinburgh; one of the Physicians to the General Infirmary at Hull; senior Physician to the Hull and Sculcoates Dispensary; and Physician in ordinary to the Lying-in Charity, at Hull.—8vo. pp. 256. London, 1818. Baldwin and Co.

UNDER the term Marasmus, Dr. Ayre proposes to consider certain morbid conditions, which, according to the predominance of particular symptoms, have, by different authors, been designated under various appellations as distinct diseases. The diseased state originates in disordered function of the digestive system, and leads to that defective nutrition of the body which produces the obvious external character which is here adopted as distinctive of the morbid affection. The author considers the marasmus of children, and the disorder of adults commonly termed bilious, as disease of the same origin and nature; modified, perhaps, by differences in the system dependent on differences of age and constitution; and he, therefore, uses these terms indiscriminately, and comprehends under them every form and variety of the complaint. The disease is distinguishable into two stages,—an acute and a chronic one; their separate existence is often overlooked, though tolerably well defined by different symptoms. In the chronic form, there is a morbidly-craving appetite, without much thirst or fever; whilst, in the acute, there is a very marked loss, or an absolute extinction, of appetite, with a considerable degree of both thirst and fever.

Dr. Ayre proceeds to describe, with great perspicuity, the symptoms which characterize the progress of marasmus in infancy, in childhood, and in the adult age. They are all indicative of deranged function in some of the chylopoietic organs; but we cannot here detail them. He remarks its frequent resemblance, in children, to the irritation of difficult dentition or of worms in the intestinal canal, to tabes mesenterica, and to hydrocephalus internus. It is often confounded with dyspepsia, and the mild hysteria of women, and hypochondriasis of men. In the youth of one sex, it passes under the name of chlorosis; and, in the other, it is frequently denominated a chronic weakness. But the most important diseases which it resembles, and from which it is of most consequence to distinguish it, are the anasarca of debility, phthisis pulmonalis, and the organic and inflammatory affections of the liver.

It is only necessary to reflect on the importance of the perfect action of the digestive apparatus to the maintenance of a healthy condition of the entire system, to be convinced of the multiplied variety of secondary disturbances which may result from a derangement of the primary action in the series of animal functions. The necessary consequence of a first imperfect action is the imperfection of a second, which stands in the relation to it of effect. But, independently of such concatenation of disorder, which may be shown to be of physical necessity, there exists in the economy of animate beings another pervading medium, through which disturbance is propagated remotely through the system: strike upon the first link of the chain of sympathies, and vibration runs through its whole extension. Hence the varied course which derangement of function may pursue; and hence the difference of character which disease may ultimately assume. From this source, too, no doubt, has emanated the endless enumeration of diseases which swell the pages of nosologists. We would not be thought to imply that all disease is of one origin, and that this origin is to be sought in chylopoietic disorder; the complex machinery of animal existence is amenable to the influence of many other extrinsic agencies than those which minister to its nutrition, and all of them may prove the cause of some irregularity of movement. Yet we are persuaded that all of those inlets to disorder, conjoined, form but a trivial proportion to that great avenue, the *iter ad ventriculum*; and we also feel a conviction that medicine has often and long been engaged, and too often worsted, in the contest with affections as of an idiopathic and independent character, which were the secondary, or perhaps more remote, result of derangement introduced into the incipient functions of alimentation.

Dr. Ayre shows that many of the symptoms assumed as characteristic of original diseases above alluded to, are but the product of disordered digestion; and that they are removable by the means which correct the primary affection. He does not combat the existence of such several diseases; but he makes it apparent that their idiopathic nature is frequently very liable to misconception. The distinctions which the author draws betwixt the fictitious diseases and their prototypes are clear and satisfactory. This diagnostic part of the work is full of interest.

Diseased function may be frequently, and for a long continuance, present, when no lesion of organic structure shall be afterwards discoverable, and the symptoms may be such as to induce a belief that organic disease exists; whence, as

• the author judiciously remarks, highly pernicious practice may be adopted. Minute and extensive examination has convinced Dr. Ayre that defective action is much more rarely to be ascribed to change of structure in an organ than it is common to suppose. His opinion on this subject, with regard to that important viscus—the liver, does not coincide with that of some of the profession, whose opportunities of judging have been very extensive. Some valuable observations occur in the consideration of this part of the subject.

“A considerable number of the symptoms of the bilious affection are produced by the operation of that law of the animal economy which we term sympathy; for, beside the general and local disturbance which is observed to arise directly from the disordered actions of the liver and the other chylopoietic viscera, there are several important affections produced through the sympathetic connexion subsisting between these organs and different parts of the system, whereby an irritation, present in the former, is communicated to parts of the body with which they have no local nor apparent relation. Of the effects resulting from the agency of this law, there may be said to be several kinds.

“The first we may notice is an increased action of the serous and mucous membranes, whereby a larger secretion of their proper fluids, or a morbid change in them, is produced.”

Of the sympathetic establishment of diseased action in these structures, several instances are adduced; leading, in some cases, to partial or general anasarca; in others, to accumulation of serous fluid in particular cavities, and lymphatic depositions in other parts; and, in mucous membranes, to increased action, to purulent secretion, and even to ulcerative process. From the operation of this law, the author deduces the formation of topical, and sometimes formidable, disease, in remote, and frequently important, organs. Hence a frequent cause of difficulty in discriminating betwixt symptomatic and idiopathic disease. On this point the author enlarges to some extent; particularly in treating on the sympathetic affection of the mucous membrane lining the cavities of the respiratory organs. It is of great importance to discriminate betwixt irritation of this nature and the cough of phthisis.

Having treated at some length on the several affections considered as sympathetic, and shown in various instances, occurring in his own practice, their co-existence with biliary derangement, Dr. Ayre proceeds to illustrate the pathology of marasmus by facts connected with the functions of the alimentary canal. The different parts of the digestive apparatus have an intimate connexion with each other, by continuity of surface and by nervous intercourse; their se-

• verally subservient actions are excited by sympathy, and by the successive application of transmitted stimulant materials. Amongst organs so reciprocally dependent, and so consensual, in their actions, disorder, in whichever originating, is easily communicated to others of the same system: thus, derangement of the stomach will produce irregularity in the action of the liver; and this latter disorder in the functions of the duodenum, whence further disturbance is propagated. Thus it seems hardly possible that disorder should occur, however originating, in any part of this system, without the associate organs participating more or less in the morbid affection; and by these means the process dependent on their joint offices is imperfectly performed. It is difficult to determine which of the chylopoietic viscera is, in the disease under consideration, most commonly the first to suffer disorder; but we are enabled to detect the existence of derangement in several of the more important, by an obvious deviation from their accustomed actions. Thus, we observe the stomach craving or loathing food, rejecting the ingesta, or throwing out viscid phlegm or other vitiated secretions. Of deranged hepatic function we have tolerably accurate means of judging, by the appearances of the alvine excretions: in these we observe an excess, a suspension, a deficiency, or an unhealthy state, in the secretion of the liver. These are unequivocal indications of the seat of disorder; and these are commonly present, more or less, in the disease in question. In marasmus, Dr. Ayre thinks that disorder of the liver is rarely absent. In speaking of the derangements of function of this viscus, he is of opinion that the dark matter which is frequently voided by stool owes its colour to the presence of blood, and that this is effused from the extremities of the minute branches of the vena portarum, in consequence of congestion in this system of vessels. The proof of this state of congestion he draws from various considerations, and he believes it to exist in both the acute and chronic stages of marasmus. It is caused, he says, by suspension of the secretory function of the liver, and is relieved in several ways,—by a restoration of the secretion of bile, which, when in excess, constitutes cholera morbus,—or by an effusion from the secreting extremities of the veins of unchanged blood. To this, the author thinks, is to be attributed the black colour of the motions. This effusion he considers to take place sometimes in large quantity, and, when carried off by the bowels, it constitutes melæna; when it is thrown up by the convulsive action of the stomach, it becomes the disease hæmatemesis. The customary means of relief in these affections coincide with the view which is here

given of their origin. Medicines which clear out the contents of the bowels, and promote the healthy function of the liver, relieve the congestive state of its venous system. This opinion of Dr. Ayre as to congestion in the hepatic vessels, is extended to its almost necessary occurrence in the early stage of disorder, wherein the natural action of these vessels is suspended ; and he considers it to be almost invariably present as a precursory symptom to more obvious biliary derangement. This forms the main feature in his view of bilious disorders, and gives the bias to his practice ; and, perhaps, it would not be easy to refute the author's doctrine. His view of the pathology of marasmus is recapitulated in the following passage :—

“ 1st. That this disorder consists in a deranged and imperfect action in the secretory function of the liver, and a consequent deficient and unhealthy secretion of bile, as is manifested by the alvine discharges not having that colour which is always imparted to them by it, when it is secreted in a healthy state and in the proper quantity.

“ 2d. That this derangement in the functions of the liver commonly arises from a disorder commencing in the stomach ; for the function of digestion is performed by organs whose actions, by means of a nervous union established among them for this purpose, are rendered accordant and co-operative ; the healthful action of the liver depending upon a stimulus imparted to it by the stomach in obedience to this law.

“ 3d. That in certain deranged states, therefore, of the stomach, the precise nature of which is unknown, there is either a morbid or an imperfect stimulus given to the liver, by which its secretory function is impeded, and a bilious fluid produced that is deficient in its quantity, and commonly of a morbid kind.

“ 4th. That, as an interruption in the accustomed actions of a secreting organ occasion a congestion of its vessels, the diminished secretion of the bile gives rise to a congestive state of the *vena portarum* and its branches ; and, in some cases, to a similar state in those organs whose venous system is associated with that of the liver.

“ 5th. That, in consequence of those efforts which nature makes to free herself from disorder, this congestive state is sometimes spontaneously removed by a copious secretion of bile, constituting the bilious diarrhoea or the cholera morbus ; and that, in other cases, it is temporarily relieved by an haemorrhoidal flux, or by the discharge of blood from the loaded extremities of the *vena portarum* ; occasioning, in this latter case, and when in small quantities, the black and tar-like, and often putrid and fetid, stools ; and, when in excess, the idiopathic haematemesis or melæna.

“ 6th. That, whilst this congestive state of the liver produces an assemblage of symptoms resembling in many points the acute

inflammation of that organ, it differs essentially from that state in many important particulars. For, in the acute inflammation of the liver, it is the arterial action of the organ that is excited, and the congestion (if the expression be allowable) is arterial; the secretory function of the organ, from its being carried on by a distinct class of vessels, partaking only secondarily and partially in its effects; whilst, in the venous congestion of the liver, consequent upon an interruption in its secretory action, the arterial system of the liver is necessarily but little, if at all, affected, the congestive state in that organ being, in all probability, limited to the vena portarum and its branches.

"7th, and lastly. That the indications for the removal of these morbid but dissimilar states will, therefore, necessarily be different. The inflammation in the liver will demand the same treatment which is applicable to inflammation in other parts of the body; for it differs in nothing from that state in them, either in its origin or nature: whereas, in the other disorder, from its having nothing in common with inflammation, it will not, as I have repeatedly found, be benefited by venæsection or by blistering, and the severe and antiphlogistic regimen; but the principal object to be attained will consist in a renewal of the healthy secretory action of the liver, as it is from the interruption of this, that the congestive state, with its immediate train of painful symptoms, has arisen."

The remote causes which Dr. Ayre assigns to marasmus are cold—irregularities of diet—excess in the use of spirits—the impure air of crowded or close situations—certain eruptive fevers—sedentary employments, &c. &c. On each of these he specially dilates; and, in the part devoted to the consideration of irregularities of diet, are introduced some highly valuable observations on the dietetic treatment of infancy, which, in the hands of ignorance and depravity, is so commonly productive of disease and death. The very flagrant violation of the plainest dictates of nature, committed in the mismanagement of infants, almost from the moment of their birth, amongst the uninformed, must be familiar to the notice of every practitioner in the crowded haunts of man. These abuses the author takes an opportunity of exposing, and of justly reprobating; and we cannot but regret that his remarks on this subject should not have a wider range than the circle of professional readers will afford to them.

In the treatment of marasmus, Dr. Ayre lays down these general indications of cure:—1st, to correct the disordered action of the liver, and remove the congestive state of that organ; 2nd, to cleanse the bowels of their morbid secretions, and the imperfectly-digested matters collected there; and, 3d, to lessen or avoid all those causes which tend to aggravate the complaint.

The two former of these indications call, of course, for the exhibition of medicines of the purgative class : but, of the agents of this order, he considers none so immediately adapted to fulfil the first intention as calomel, and that given in very minute doses. The doses, indeed, used by Dr. Ayre are so small as almost to appear inadequate to the design ; but against the evidence of facts it is vain to reason, and the author says he finds his practice almost invariably successful. To the submuriate of mercury, given in such quantities, the author ascribes, not only a power of exciting the biliary secretion when suspended, but of reducing it to a healthy proportion when in excess. Thus, he finds it equally serviceable in bilious diarrhoea or cholera morbus, as in those states of disorder where the bile is either not poured out or secreted in sufficient quantity. Keeping these properties in view, this medicine is not given in doses to excite purging, but is made to precede, in very minute and divided quantities, the exhibition of medicines for the avowed purpose of clearing out the bowels. Dr. Ayre cautiously avoids giving the calomel so as to affect the mouth, diminishing the quantity or frequency of the doses, and keeping an open state of the bowels by aperients. Of the last-mentioned class of medicines, a preference is given to the neutral salts, as, in evacuating the contents of the intestines, they at the same time increase the secretions of their surface. But these purgatives are not exclusively used, as the author says it is often useful to act upon the different portions of the intestinal tube. Purging is not considered expedient in marasmus ; but, when the morbid accumulation of irritating matter has been dislodged, a regular state of evacuation must be maintained. An emetic in the commencement of the attack is often serviceable ; in the later stages it is rarely useful. But we cannot follow the author through the whole of his curative views : suffice it to say, that they are characterized by sound judgment, raised on principles derived from rational deduction, and confirmed by the convictive test of experience.

FOREIGN MEDICAL AND PHYSICAL SCIENCE AND LITERATURE.

Exposition of the Doctrine of M. BROUSSAIS.

(Continued from p. 174.)

MMR. BROUSSAIS is, however, far from wishing to controvert the opinion that several morbid affections arise from debility. This reproach has only been thrown on him by persons who, having studied his doctrine only in a superficial manner, or being acquainted with it merely by popular report, have not fully understood his ideas. Instead of repeating, in a vague manner, that this physician can see nothing but irritation, they would have acted more reasonably in adducing instances of disease of which he had mistaken the *asthenic* character: the objection would then have been more applicable, and more beneficial to science.

Let us now take a general view of the agents which modify the state of the general system, and examine their mode of action; in order that we may develop his opinions respecting those affections which are produced by debility.

The agents that excite the animal economy, in furnishing to it nutritive materials, are not very numerous; and nearly the whole of them are received by the digestive organs. Now, they may, either by their abundance or by their qualities, irritate the membrane that lines these organs; they may produce inflammation of the blood-vessels when transmitted into them; and the parts to which they are carried are also exposed to irritation from their presence. On the other hand, when the nutritive materials are insufficient in quantity, or are to a certain degree improper for nutrition, the animal economy falls into a state of debility, which often proceeds to actual disease. Other agents, such as cold and humid air, painful moral affections, &c. frequently debilitate the system without producing irritation. The continued use of innutritious excitants, also, and increased action of organs, will produce local irritation, and induce weakness of the parts. Thus, the eye, on being exposed to a too-powerful light, becomes insensible; the genital organs, when too much exerted, are rendered lax and incapable of action, &c.

Is debility of an organ, as well as increased irritation, susceptible of being communicated to other parts? and, if so, to what extent may the propagation of it be productive of general disease? M. Broussais had not himself considered this question; and, when it was presented to him, he deferred the elucidating it to a future period. If it be true that weakness of the stomach is sometimes propagated to the rest of the body, and that want of energy in the nervous system induces a state of asthenia in other parts, it is not less certain that a communication of debility is but very rarely

witnessed in practice. Indeed, the rest of the system remains uninfluenced by debility of the external parts of the body, whilst it partakes so readily of their irritation; and it appears to be affected by weakness of the internal organs only in cases where there results from it a privation of nutritive materials, or direct want of irritation; as when the functions of the digestive, respiratory, or nervous organs, are diminished.

However it may be with regard to the above question, general debility, however great, is never an obstacle to the existence of local irritation. So far from it, that increased action of the different organs appears, in some measure, to be more readily induced, in direct proportion to the greater degree of weakness of the patient. We know with what facility convalescents contract inflammation of the mucous membranes; what extreme susceptibility there is to irritation in persons debilitated by excessive hæmorrhage, &c.

When irritation has existed for a considerable length of time in any organ, the tissues analogous to it become gradually disposed to contract the same affections. This proposition is, as M. Broussais observes, one of the fundamental principles of pathology; it is a law which serves to explain how chronic inflammation of the pleura, for instance, is so often communicated to the peritoneum; how irritation of the mucous membranes of the stomach and intestines becomes connected with a similar affection of the mucous membrane of the lung; how disease of one part of the fibrous system, as gout and rheumatism, is followed by inflammation of other parts of a similar structure in succession; and, lastly, in what manner irritation of the blood-vessels or lymphatic glands of one part of the body, is so frequently communicated to the whole of their respective systems. It is this disposition to the succession of irritation which constitutes, in the opinion of M. Broussais, what have been termed the inflammatory, rheumatic, cancerous, and scrofulous, diatheses. He rejects as erroneous the admission of an altered state of the fluids, termed a depravation of them, which has so long been regarded by pathologists as the material cause of these affections: but, from his opinions on this point having been objected to, we shall develop the arguments he has brought in support of them when we treat of scrofula and other chronic morbid changes of structure.

The diseases which ensue from organic irritation may terminate in different ways, independently of their passing into a chronic form, and propagating themselves to other parts of the affected tissue:—1. The disturbance of the nervous system in general, which is the consequence of the pain of the irritated organ, may be sufficiently violent to produce death, before local inflammation may be developed. Thus, we have seen in experiments with the oxy-muriate of mercury, animals perish from the effects of pain, before the poison had induced inflammation of the stomach.—2. The violent re-action of the sanguineous and nervous systems may give rise to mortal congestions or hæmorrhage, more or less abun-

dant.—3. On the local irritation gradually diminishing, and the symptoms dependent on it following the same course, the state of health may be re-established.—4. After a greater or less period of duration, on the irritation rapidly diminishing, its resolution is followed by sudden re-establishment of the equilibrium of the system and the appearance of the excretions previously suppressed: the organic actions and the evacuations, which signalize the last mode of termination, constitute what have been termed *crises*. Let us stop an instant to examine this subject.

Physicians have been for a long time divided respecting the determination of the exactness of the critical days of Hippocrates, and on the importance that should be attributed to crises in the practice of medicine. The doctrine of the philosopher of Cos has been considered as incorrect by a great number of judicious practitioners. According to M. Broussais, we should consider crises as the consequence of the cessation of local irritation, which permits the return of action throughout the system: it is, he says, a phenomenon similar to the return of heat in a part in a state of health, after extreme cold, violent passion, or a copious meal that has induced shivering; only this disturbance appears to be morbid in consequence of its violence in degree.

The actions observed in crises are more violent, and the evacuations which follow them more abundant, in direct proportion to the strength of the patient, the intensity of the disease, and the shortness of its duration. We should never in practice, M. Broussais observes, wait for these salutary natural effects. In general, practitioners do not rest in expectation of crises in pneumonia, pleurisy, manifest inflammation of the stomach, &c.; every one agrees that our efforts should be directed to the immediate removal of the inflammatory action. It is only, he continues, in some fevers, and in diseases the nature and seat of which are unknown, that we are recommended to wait without interference for the appearance of critical evacuations. But, he also remarks, these pretended essential fevers are really the consequence of irritation of the gastric organs, and their progress should not be inactively contemplated, any more than that of other instances of symptomatic febrile re-action.

The partisans of the doctrine of crises had not hitherto opposed any arguments, deduced from rational physiology, to the attacks of their adversaries: they relied on the testimony of the correctness of the opinions of Hippocrates, furnished by the experience of ages; and from having themselves observed that critical evacuations, happening on the indicated days, were followed by convalescence. These physicians have made of this subject, as well as of many others, a sort of sacred tradition, to which we could not refuse our assent without being guilty of medical impiety. No person, however, contests the correctness of their observations, and those of their predecessors. M. Broussais himself acknowledges their propriety; but the consequences which have been deduced from them are not always favourable to the interest of the patient. Indeed,

- when a disease is left to itself, in expectation of the crisis, it sometimes carries off the patient before this can happen to save him: in a great number of instances, the vital powers being exhausted by the violence of the disease, the critical actions are not manifested, or are incomplete; and very often the irritation that constitutes the disease is only dissipated to be carried to some important organ, where it may be as dangerous as in the first; which constitutes metastases not unfrequently fatal. "The conclusions that may be deduced from these reflections," continues M. B. "show that inactive expectation of crisis presents a greater number of unfavourable chances, than a vigorous mode of treatment properly directed."

Having thus disclosed to our readers a view of the doctrine of M. Broussais in its more general application, we shall proceed to the consideration of it with respect to lesions of particular organs.

Two courses here present themselves to us: we might take, with M. Broussais, a nosological system, and, passing through it, deduce his opinions respecting each of the morbid affections comprised in its different divisions; but, in proceeding thus, we should give to these articles an extent and a polemic form, which are not conformable to the plan we have proposed to adopt. The second way that is open to us consists in examining successively the diseases of the vascular and nervous systems in the different organs, and developing the opinions of the author of the *Examination* respecting them. In adopting the latter method, is it indifferent with what part we commence?—We think not. Affections of the *gastric system* being complicated with all others, those which should particularly engage the attention of physicians, and, indeed, constituting the basis of the pathology of M. Broussais, are the maladies which we shall examine in the first instance.

The beautiful discoveries of modern zoölogists have shown that the digestive canal is the most important part of animal organization, and that it is this which forms, in a manner, the characteristic of animal life. On attentively considering the functions of this part of the system, we perceive that, as the object of almost all the actions of an animal is to supply it with matter adapted for its use, so are its functions connected, in the strictest manner, with the general economy. It is, then, not surprising that the digestive viscera have the most extensive and immediate sympathies with the nervous system of *animal** life and the loco-motive organs. The most eminent physiologists long since observed, that the states of plenitude and vacuity, of health and of disease, of the stomach, exerted a powerful influence on both the moral and physical faculties of man. It is well known to every observant practitioner, that, after a too copious repast, when the stomach is overcharged,

* This term is here used in its peculiar sense, according to the doctrine of Bichât.

a sensation of weight in the head, general weakness and depression, and pains in the joints, are commonly experienced.

M. Broussais has profited by the consideration of these facts, and, passing from physiology to pathology, he has shown that the same sympathies which, in slight indispositions, announce increased excitement of the stomach, characterize the morbid state of this viscus, when they are exaggerated by a more violent degree of irritation. Another circumstance, which adds to the importance of the gastric system in the eyes of the physiologist, is, that it is to that part of the economy that the greater number of medicines are immediately applied. How can we (says M. Broussais) deposit thus, on the extremely-sensible mucous membrane of the digestive organs, substances which are intended to affect the most distant parts of the body, if we are not well acquainted with the signs and effects of their immediate influence? We shall see that, according to that philosophical enquirer, local affections in parts distinct from the gastric system, and which are sufficiently violent to induce fever, only produce this effect by sympathetic irritation of the heart and the mucous membrane of the stomach and small intestines: it thence results that there is no severe disease that is not complicated with this irritation, or of which the progress and treatment will not be modified by the same cause.

All organic irritations present a crowd of anomalous circumstances, which are the source of innumerable varieties in the characters of local affections and sympathetic disorders dependent on them. The extensive modifications of individual constitutions are so many causes which produce equally numerous variations, in different persons, in the character and violence of the symptoms of disease. Thus, inflammation of the tissues surrounding the articulations, in gout and rheumatism, is sometimes highly painful, at others almost indolent; in many cases it produces violent febrile re-action, in others no general emotion ensues. Under how many different aspects do irritation of the brain, lungs, and pleura, present themselves. The stomach and small intestines are, as well as all other parts of the body, susceptible of various modifications of excitation; and, by means of their extensive sympathies, disorders of those parts produce innumerable varieties of morbid affections in different individuals. But, whilst assiduous study of inflammations of other membranous parts has shown us the true nature of many of them, the inflammatory character of which had been misunderstood,—such as croup, diarrhoea, dysentery, &c.—the affections of the gastric system had hitherto been considered only in a very partial manner: the seat of many of them being unknown to the greater number of physicians; and of the generality of them (says M. Broussais) we possess only some confused ideas of the organic modifications on which they depend.

Gastric embarrassment; gastric and mucous fevers; gastritis, properly speaking; plague; adynamic, ataxic, typhous, and yellow, fevers; are nothing else, according to M. Broussais, than various species of inflammation of the mucous membranes of the

stomach and small intestines, differing in their degrees of violence, as well from the peculiar constitution of the patient, as the causes which may have produced them. We cannot here trace the symptoms of each of those affections, since to effect it would lead to details which we must avoid, as well as to a repetition of circumstances generally known: we shall confine our attention to a rapid view of the characteristic phenomena of the whole, and then point out the causes of the numerous and different appearances which they present.

M. Broussais terms these maladies *gastro-enterites*, not because he believes that, in all cases, the stomach and intestines are irritated in the same degree, but because the affection which commences almost constantly in the first of these organs is quickly propagated to the second; and from the curative indications being the same, whatever may be the part most violently affected. He endeavours to point out, from the symptoms, the principal seat of irritation in the different stages of the disease: when it is violent, and has continued for a certain length of time, he has constantly observed that it has been communicated throughout the whole extent of the superior portion of the digestive canal. The large intestines are, however, ordinarily free from disorder; and, when they are implicated, the particular symptoms give notice of it to the attentive practitioner.

All the modifications of the *gastro-enteritis* of M. Broussais present the following symptoms, somewhat modified in different instances:—loss of appetite; more or less of urgent thirst; and various degrees of derangement of the digestive functions. In all of them we observe, on the centre of the tongue, a coating, which is variable in thickness, density, and colour; and, about the point and lateral parts of that organ, a redness that varies in colour from a rose-tint to the most fiery hue: appearances noticed by many authors, and to which M. Broussais particularly directs our attention, as to one of the most positive and constant signs of gastric irritation. The pulse, which is not affected in slight affections, is frequent, sharp, and contracted, in proportion to the violence of the local inflammation: it becomes weak, and falls below the natural standard, when the disease has been caused by a deleterious agent,—when the patient has been previously exhausted,—when the inflammation has attained a great degree of intensity,—and, lastly, when gangrene has taken place. The heat of the skin is increased, particularly about the abdomen and the epigastric region, and conveys a sensation of roughness to the hand that is one of the most constant effects of irritation of the mucous membrane of the digestive organs. This heat follows, in general, the modifications of the frequency of the pulse, being augmented or diminished in a relative manner: sometimes, however, the same relation does not take place; and this circumstance, which is only the result of sympathetic derangement of the nervous system, has been adduced as one of the principal evidences of the malignancy of the diseases above enumerated. The nerves, and the

cerebral centre in particular, are influenced in various ways and in different degrees: there is commonly depression of spirits, morosity, and more or less violent cephalalgia; and these symptoms may extend to the most profound stupor and depression of the nervous power: at other times, on the contrary, there is an exaltation of the functions of the brain, which vary from a slight degree of wildness of manner, to the most furious delirium. Lastly, one of the most remarkable sympathies with the stomach and small intestines is evinced in the extremities: in all cases of gastro-enteritis, there exists a sensation in the muscles similar to that arising from fatigue, and often violent and almost insupportable pains in the joints. When the disease has attained a great degree of intensity, the consequent sympathetic affections increase in violence, and we then observe, conjoined with debility of the nervous system, a prostration of the voluntary powers of the muscles, with an exaltation of the action of those organs, accompanied with the most terrible convulsions.

If we examine the most frequent causes of those diseases which we should (according to M. Broussais) regard as the results of different stages and varieties of existing irritation of the mucous membrane of the stomach and small intestines, we shall find that they are such as act, either directly or indirectly, on the digestive system. Thus, repeated errors of regimen, the ingestion of acrid and irritating substances, the influence of putrid miasmata, &c. appear in the first order: amongst those of the second may be counted those miasmata which, being received into the system through the skin or by the respiratory or digestive organs, always evince their influence on the latter; excessive heat of the atmosphere, which excites the skin and, sympathetically, the stomach and small intestines, &c.

There is not one of the different stages of gastro-enteritis which may not pass to another, either more or less violent in degree. Thus, what is ordinarily called *gastric embarrassment*, as all authors have observed, is very often the precursor of *gastritis*, in the common application of this term,—gastric, mucous, and ataxic fevers, &c. which succeed each other in the above order in the same individual. The causes that produce typhus, yellow fever, and plague, sometimes confine their influence to the determination of a slight degree of gastric irritation. Now, in the progressive increase of the symptoms which characterize the passage of the malady from the most trifling to the most violent form, it is absolutely impossible to observe any exact period at which the affection precisely changes in its nature: every thing, on the contrary, indicates that it is the same organic lesion acquiring more intensity, and producing more alarming sympathetic affections. We can see no reason which should authorize us to divide the collection of symptoms into two, three, or more sections, and to say that two or three different maladies have succeeded to each other.

Can we derive, from the effects of medicines, any knowledge
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which may lead us to recognize the nature of diseases? We must be very adverse to the formation of conclusions on this basis; the sensibility of different persons being so variable, that the most opposite remedies have appeared to be attended with success in similar affections. But, if we consider the effects of different modes of treatment from extensive series of observations, we may acquire some useful information, on the correctness of which we may be allowed to depend. M. Broussais has shown that anti-phlogistic measures are those which most frequently succeed in the maladies of which we treat: the fortunate results he has obtained from their application are beyond any comparison in extent with the success that has ensued from contrary modes of treatment. He has frequently seen tonics and sedatives, successively applied to the digestive canal, exasperate and moderate those affections by turns, and occasion them to proceed with rapidity from the slightest to the most violent degrees, and *vice versa*. Are not all our writings on medicine filled with observations which show the succession of gastric, adynamic, and ataxic, fevers, to gastric embarrassment, under the influence of stimulants? What do these terms signify, but that the same affection has become exasperated? If it be not so, there must necessarily be groups of symptoms, modifications of the animal economy, replacing each other: a vague and gratuitous explanation.

If the examination hitherto made of gastro-intestinal irritation has indicated what is the true nature of the affections we have enumerated, we now arrive at a source of information which will not permit us to continue in doubt respecting them. Pathological anatomy, indeed, aided by an attentive consideration of the character of the symptoms, furnishes the most positive and incontestable illustrations of the nature of those diseases. We should think, on a slight view of the subject, that, from the opportunities of exploring the bodies of those who have fallen victims to inflammation of the superior part of the digestive canal having unfortunately been too frequent, those affections should have been long since well understood: such, however, has not been the case.

On the termination of gastro-enteritis, or of the numerous maladies which represent the different degrees of that affection, we always find the consequences of inflammation of the digestive canal; but the aspect and nature of these remains of organic irritation present several varieties, the knowledge of which is of considerable importance. When the disease has been but of short duration, we sometimes find the tunics of the stomach and intestines injected with blood, and presenting throughout their whole extent, even on their external surface, a rose-coloured hue that is not natural to them, without discovering manifest inflammation of any determined portion of the mucous membrane. This shows that these organs have been the seat of irritation that has occasioned an inordinate afflux of blood to those parts, but that inflammation had not developed itself. We may compare this state to that of apoplexy, where the vessels of the brain are found dis-

tended with blood, without any effusion having taken place. It would not, however, be right to represent to ourselves the mucous membrane as little coloured with blood during life as we may find it after death: the tongue is very often of a bright red colour in the patient, but becomes pale and discolored in the dead body. It seems that irritation must have continued for a considerable length of time to render the colour of the parts permanent after death; that is to say, to combine a certain quantity of the red fluid with their tissue.

After this slight degree of lesion of the gastric viscera, we successively witness a more or less deep-red colour, or a brown or blackish hue, of the mucous membrane; the latter of which indicates the near approach to, or actual occurrence of, gangrene. Very remarkable occurrences, that are frequently noticed in the bodies of persons who have died from gastro-enteritis, are invaginations, more or less extensive, of the intestinal parieties. These foldings, which have so long been considered as a peculiar affection, under the name of *volvulus*, *ileus*, &c. are regarded by M. Broussais as the result of the violent and irregular contractions that agitate the small intestines. According to him, practitioners in general have, in these cases, mistaken an effect for a cause; they have considered that as an essential affection which is only a consequence of irritation of the gastric viscera.

In general, whatever may have been the disorder observed in the superior parts of the intestinal canal, the inferior portion (that is, the large intestines,) is unaffected. But, when gastro-enteritis has been accompanied with diarrhoea or dysentery, we find traces of inflammation of the latter parts also: this extent and complication of organic lesion constitutes a severe form of disease.

(To be continued.)

General Reflections on Fistulæ, and on the Formation of an accidental Membrane in their Course; followed by some Observations collected from the Clinical Lectures of Professor DUPUYTREN on the different Species of Maladies of this kind, and on the particular Mode of Treatment adapted for them. By M. BRESCHET, Prosector to the Faculty of Medicine of Paris, and first Clinical Assistant at the Hôtel Dieu.

(From the *Journal Universel des Sciences Medicales*, June 1818.)

WE passed over this Memoir in our History of the Progress of Medicine, from the consideration that it comprised but little information of absolute novelty; but, on further reflection, we have judged that it may prove useful to many of our readers, as a development of some opinions advanced by Mr. HUNTER, which do not appear to have been sufficiently reflected on by surgeons in general.

"The term *fistula*, in its more general acceptation, designates a deep sinuous ulcer, with callous edges, communicating with the

external surface or an internal cavity by means of a narrow opening; and from which a quantity of purulent matter is evacuated disproportionate to the extent of the ulcer. As soon as matter of any kind, whether a recrementitious, excrementitious, or gazeous, fluid, from causes which it is unnecessary to consider in this place, happens to desert its natural course, the tissue in which this matter is diffused becomes the seat of inflammation. This inflammation is violent in degree in direct relation to the more or less irritating qualities of the fluid, and the excitability of the parts with which it has accidentally come into contact.

In consequence of the irritation produced by the presence or passage of this fluid or gas, which acts as a foreign matter, suppuration in the parts subject to its influence becomes established. The abscess opens sooner or later, either externally or into an internal cavity, according to varieties in the natural efforts or the artificial measures that have been employed. The purulent matter evacuated always presents some of the characters of the liquid that determined its formation, which escapes in combination with it, in a greater or less quantity. The continual passage of these fluids produces, in the surfaces of the artificial passage thus established, a permanent irritation that is sufficient to prevent the cicatrization of its parieties.

The presence of an animal fluid in any part not destined by nature for its reception, is then the cause both of the establishment and of the perpetuation of fistulous canals.

We shall not be surprised at such a result, if we reflect that milk, a fluid apparently so mild and incapable of producing irritation, induces violent inflammation, often terminating in suppuration and even gangrene, when it is injected into the interstices of the cellular membrane. Thus, a substance which, when applied to the mucous membrane of the digestive organs of an infant, only causes the degree of irritation necessary to affect its assimilation, becomes, in a part, the sensibility of which has not a due relation to its properties, an active morbid cause, in consequence of the extreme degree of irritation that it provokes.

There is no tissue nor organ of the animal economy, in the substance of which fistulæ may not be found. Thus, we have seen them traverse muscles, aponeuroses, and tendons, as well as the cellular and cutaneous structures. The viscera are not exempt from them; we frequently witness them in the parenchymatous organs, and occasionally in the brain.

It is, however, the cellular tissue in which they are most frequently observed, either in consequence of the ready passage it affords for liquids, or from the general distribution of this structure throughout the body. This tissue is, indeed, universally diffused; it is interwoven throughout every part, and enters, as an element, into the composition of every organ. In some instances, it serves as a medium of connexion between several other tissues, which by their union compose a single organ; in others, it establishes limits to the respective viscera, muscles, &c. and supplies

them with particular or common envelopments. It is very abundant about the excretory canals, around which it forms cellular sheaths; and presents varieties in its particular texture according to the functions it is designed to perform. For instance, were fat to accumulate in the vicinity of the mucous canals, it might lessen or totally obstruct their passage; and therefore it is of a filamentous texture in those situations, not having that degree of laxity which admits of the accumulation of animal oil in its interstices. In consequence of such a disposition, that tissue favours the formation of excretory canals, and does not offer obstacles to their dilatation.

As soon as an animal fluid, having deserted its natural course, becomes accumulated or passes into this tissue, all the phenomena ensue that accompany the irritation which we have described. But this irritation also causes a remarkable change in the nutritive functions of that structure; the surface of it which is in contact with the effused fluid becomes converted into a membrane very analogous to the common mucous membranes. After the irritation has existed for a considerable period of time, and has attained a greater degree of intensity, it also induces a further change in the accidental membrane we have described, which possesses that character ordinarily termed *callosity*.

According to Dr. BAILLIE,* the celebrated HUNTER long since observed, in his Surgical Lectures, "that the internal surface of fistulae have an appearance similar to that of a secretory membrane, and which may be compared with that of the urethra."† This important observation seems to have had little influence on the minds of practitioners for a considerable period; but the great progress that has been lately made in pathological knowledge, and the frequent opportunities possessed of examining dead bodies, have verified and generalized the proposition of the English anatomist."

I shall adduce the following as one among the numerous facts which tend to substantiate the above statement:—

A young man, 20 years of age, had for some days perceived an indolent fluctuating tumor in the left groin, without discoloration of the skin, which disappeared after he had remained for some time in the horizontal posture. It was evidently a collection of

* See his *Morbid Anatomy*.

† "We find something analogous to this in the Treatise of Mr. Hunter on the *Blood, Inflammation, and Gun-shot Wounds*; but there is a wide difference between a mere assertion and the demonstration and complete history of the organization of a part. However, we shall transcribe the passage referred to:—

"I believe that a deep wound, such as that from a gun-shot, on proceeding to suppuration and forming a fistulous ulcer, becomes in some degree analogous to an excretory canal, having the power of producing peristaltic motions from the bottom to the external opening."

matter transmitted to it from some other part. It burst spontaneously, giving exit to a considerable quantity of fetid purulent matter. The pains which the patient had suffered about the vertebræ before the formation of the tumor in the groin, and which continued after it had opened, with the nature of the matter evacuated, clearly pointed out the primary disease to be caries of the vertebræ. The patient lived about two months after this time. The following were the appearances noticed on the examination of the body:—The lower dorsal and two upper lumbar vertebræ were in a carious state. A membranous canal, about an inch in diameter, extended from that part to the opening in the groin, the internal surface of which was of a bright red colour. Blood could be squeezed from it by pressure, the same as from a mucous membrane in a state of irritation. The surface of this canal was covered with purulent matter, which was furnished both by the parts about the carious bones and its own internal membrane that was irritated by the constant passage of the acrid purulent matter from the former source. It was easy to separate the artificial membrane which formed this surface, in the same manner as the internal membrane of the stomach may be rendered distinct, by dissection.

From the preceding observations, and other analogous considerations, it would appear that there can be no doubt respecting the nature of the adventitious membrane formed in fistulæ. If we now revert to the general theory of fistulous passages, we shall be obliged to admit that the present state of our knowledge of pathological anatomy would lead us to consider these diseases as dependant on the formation of an accidental tissue, which, by its organization, properties, and functions, has the strictest analogy with the natural mucous membranes.

Let us, then, enter into a general consideration of the seat, development, organization, properties, and functions, of this adventitious mucous structure.

1. It has been seen that fistulæ may be formed in all the different tissues of the animal economy, but that they most frequently are seated in the cellular membrane, which is that most extensively distributed throughout the body. This membrane is found thickly dispersed about the margin of the anus, in the perinæum, around the stenoid duct, &c.; which are the situations where fistulous ulcers most commonly appear.

2. The formation of the adventitious mucous membrane takes place, with more or less rapidity, in a direct ratio to the greater or less violence of the irritation of the tissue throughout which the extraneous fluid is diffused. The irritation is, however, not proportionate in extent to the apparent properties of the effused fluids; and it also varies in consequence of the different degrees of susceptibility of the parts affected.

The cellular membrane, in all cases, assumes in the first instance an ulcerated aspect, and furnishes a greater or less quantity of purulent matter. After this, it gradually evinces some peculiar

character. It becomes red, in consequence of increased vascularity; its vital properties are exalted; the nutritive functions of the parts are changed; its density is augmented; and, finally, its appearance has become entirely changed. By means of these successive modifications, it assumes the state of a red villous membrane; differing not only from the cellular tissue, which is arranged in areola; and the serous membranes, which are diaphanous and constantly disposed in the form of close pouches; but also from all the other species of structure that enter into the formation of the animal economy. In proportion as it is developed, it becomes more and more similar to the mucous membranes. The pus furnished by its internal surface is succeeded by a mucous secretion, which is more abundant as the new membrane produces less of purulent matter. A period at length arrives when it ceases to form the mucous secretion, which may be readily discovered by preventing the fluids that originally induced it from passing through the canal that it forms.

This canal, by means of its internal surface, is connected with these fluids, and the mucous secreted by the adventitious membrane; on its external surface, it forms a boundary to the surrounding parts, from which it is, however, separated by a layer of cellular membrane that varies in point of thickness. Superiorly, it commences from a natural excretory orifice, or some surface presenting the conditions proper to constitute a fistulous ulcer; and, lastly, it constantly terminates inferiorly on some one of the cutaneous or mucous surfaces.

3. The organic elements of the adventitious membranes of *fistulae* have the greatest analogy with those of the mucous membranes. This membrane is separated from the surrounding parts by a greater or less extent of cellular tissue, which may be termed *sub-mucous*; and it contains a portion of that structure in its composition, as may be demonstrated by maceration. Its redness discovers the presence of a large quantity of blood-vessels that terminate on its surface by exhalants, the existence of which is shown by the secretion of fluids. Since nutrition is performed in this membrane, we cannot doubt that it contains absorbent vessels. But it is only by means of new researches that we shall be able to determine, in a precise manner, the respective proportions of the different vessels that enter into its composition.

Notwithstanding these traits of analogy, the adventitious membranes of *fistulae* differ from the natural mucous membranes in so remarkable a degree as to prevent the admission of their perfect identity.

In the first place, the adventitious membrane wants that cuticle that is observed on the exposed surfaces of the mucous membranes of the lungs, digestive organs, &c. Beside which, it does not contain those glandular bodies, termed *mucous follicles*, that are dispersed throughout the primitive mucous membranes, and secrete a viscous fluid destined to lubricate their surfaces.

These are not the only differences of organization noticed by

the attentive observer between the accidental and natural mucous canals. There is a constant tendency to the obliteration of the former, as soon as the passage of the fluid through them is intercepted; whilst in the latter, under similar circumstances, such an occurrence is never, or very rarely, observed. For example, compare an old fistula, of whatever kind, provided it is still susceptible of being cured, with what is observed in cases of preternatural anus, and these different results will be very evident. We shall sooner or later succeed in effacing a fistulous canal, after having diverted from it the passage of the fluids by which it was produced, (the effecting of which, we may observe in passing, is the basis of the treatment of those diseases;) but, in the preternatural anus, on the contrary, although the whole of the faecal matter may pass through the accidental opening, the inferior part of the intestinal canal does not become obliterated, but continues to furnish a greater or less quantity of mucous matter.

This difference with respect to the facility of obliteration of canals formed by accident, and the almost constant impossibility of effecting it in those which are lined with natural mucous membranes, shows what little expectation should be formed of the permanence of canals formed in these tissues; and how preferable are natural to artificial views in the treatment of many diseases of those parts: that is to say, those which re-establish the primitive course of fluids, to those which effect new and artificial modes of transmitting them. It is in consequence of this that passages formed through the prostate gland, by means of conical sounds, only remain as long as they are kept open by the presence of the instrument. It is from this, also, that practitioners have ceased to employ the methods of Woodhouse, Hunter, Monro, &c. for the treatment of fistula lacrymalis, and adopt that by which they endeavour to restore the natural passage of the tears. However, nothing is more common than to witness the return of that disease, when it has been supposed to have been cured by a long-continued use of tubes, bougies, &c.; but this arises from the disorder, in these cases, depending less on a contraction of the soft parts, or excretory ducts, than on that of the hard parts surrounding those passages. What proves this is, that the insertion of metallic canulae, which offer more resistance to the bony parieties than the mucous membranes, is sufficient for a prompt and radical cure of a malady too often rebellious to all the efforts of the most able surgeons, before they had recourse to canulae that were permitted to remain in the parts, the advantages of which were long since pointed out by M. Dupuytren; and by means of these he has cured many hundreds of cases, for which all the ordinary methods had been employed in vain.

4. The vital properties and functions of the adventitious membrane formed in fistulous passages, much resemble those of the tissue to which we have compared it with respect to its organization. This membrane possesses various degrees of sensibility. Sometimes the introduction of a probe or sound into a fistula is

productive of severe pain; whilst, at others, the presence of those instruments is more readily borne. We have observed that this membrane secretes a mucous matter, which at first is mingled with pus, but afterwards flows away perfectly pure; and finally ceases to be secreted, if we divert from it the fluid or other matters that had induced it: were it not for this, we could not hope to effect the obliteration of the fistulous canal.

After having given a rapid, though exact, history of the internal membrane of fistulæ, it remains for us to ascertain, more correctly than we have hitherto done, the nature of the *callosities*, the production of which we have attributed to the permanence of the local irritation, kept up either by means of the fluid that constantly passes over the membrane, or by various external causes,—such as certain topical applications, exercise on horseback in cases of fistulæ about the anus and urinary passages, &c.

These *callosities* have a whitish appearance, and seem to be the result of congestion of colourless fluids in the membrane and subjacent cellular tissue. Formerly they were considered to be of a schirrous, or even cancerous, nature; and these erroneous notions gave rise to injurious measures in the surgical treatment of this disease. Experience has shown that rest, emollient applications, and appropriate dressing carefully applied, will, in the greater number of instances, effect their removal. According to the present received ideas respecting cancerous affections, and the treatment that should be opposed to them, it will be readily perceived that they differ in every respect from the *callosities* of fistulæ.

By a judicious use of the measures I shall presently point out, we may almost always spare the patient an operation, which, although generally exempt from danger, is productive nevertheless of severe pain, and frequently gives rise to very unpleasant consequences. I allude to the treatment of fistula by extirpation, a cruel operation no longer practised, or at least only adopted in places remote from the centres of acquisition in knowledge, and by persons governed by prejudices, or ignorant of the progress of the art of surgery.

A simple operation is now generally substituted in the place of extirpation, which is executed in various ways, subordinate to accidental circumstances and the particular inclinations of the surgeon. These consist, in all cases, in re-establishing or dilating the natural passages, in dividing or compressing the fistulous canal throughout its whole length, so as to give a free issue to the pus, and to oppose the passage of liquids, aëriform matters, or fluids, in the accidental canal; the bottom of which should be the first part that should become united. They have also another object, that of removing external extraneous substances, and favouring the separation and entire removal of those formed in the diseased tissues.

Fistulous passages differ considerably, according to the laxity, organization, and nature, of the cellular tissue in which they are developed. They vary also in the disposition and direction which

they assume. Thus, they do not always extend in a right line; and often form numerous sinuses, terminating in more extensive cavities. The accumulation of fluids in the latter gives a complicated character to the disease, and renders the treatment of it tedious in consequence of the difficulty experienced in the discovery of these cavities, and the means of arriving at them. These complications depend on the same causes as the principal disease. The retained fluids, also, according to their nature, are productive of inflammation, and the numerous and various consequences that the practice of surgery daily offers to our observation.

We may, I believe, conclude from what has been stated—

1. That fistulae are accidental canals, kept up by the continual passage of excrementitious substances, purulent matter, the fluids coming from secretory organs, or gazeous fluids, which produce irritation of their surfaces and prevent their adhesion.

2. That one of the extremities of fistulous passages constantly receives or produces the cause of the irritation that perpetuates their existence.

3. That it is to the knowledge of this cause that the practitioner should direct his attention, if he would employ a rational and efficacious mode of treatment.

4. That there is always the formation of a tissue of a particular nature in fistulous passages, more analogous to the mucous membranes than any other species of structure.

5. That, in some cases, this tissue is the only existing organic alteration; and this is what is commonly observed in simple fistulae.

6. That, in many other cases, there exists at the same time a degeneration of the cellular structure and adjacent parts; a degeneration which we should be careful not to consider as the cause of the fistula, nor to confound with schirrous, cancerous, or carcinomatous, affections, from which it essentially differs.

7. That the removal of the parts thus degenerated will not remedy the cause of the fistula; it only destroys one of its effects that would generally disappear spontaneously after the cause of it had ceased to exist.

8. That the indications for the treatment of this malady are to prevent the formation of pus, or at least the flow of it through the fistulous passage; to re-establish the course of the fluids or secretions through their natural channels; and to prevent the escape of air by the opening that communicates with one of the extremities of the fistula.

9. Lastly, that, after the causes are removed, we may obliterate the fistulous passage, by dividing it throughout its whole extent; by the use of compression; or by exciting, by means of caustics or irritating injections, such an inflammation of its parietes as may induce their mutual adhesion."

An Essay on the Effects of Temperature on the Human System:
by FRANKLIN BACHE, M.D. of Philadelphia.

We insert this Essay without any particular comments; for, since Dr. Bache adopts the opinion that caloric is an absolute substance, and we are disposed to consider the phenomenon of heat merely as the result of a modification of *atomic motion*, our endeavours to refute such of his propositions as we may not be disposed to admit, would necessarily assume so much of a polemical form, as to recall to the minds of some of our readers the disputationes in *alma mater*, and would be productive of but little utility or gratification to the enquirer. We must, however, observe, in general terms, that this Essay contains many observations and judicious reflections that merit the most careful examination and profound meditation.

"All agents which exert an operation on the human system have been arranged under the two great classes of stimulants and sedatives: there is reason, however, to believe that this arrangement is the result rather of a partial and superficial view of the subject, than one resting upon strict and logical investigation. In the mode of operation of positive agents, there is indeed a difference which may constitute the basis of a very natural division of them; but this division throws no one of them into the class of sedatives, in the abstract meaning of that term."

This difference in the manner of operation of positive agents, just alluded to, consists in the various degrees of velocity with which they produce their effects. When their operation is comparatively quick, they give rise to what is called excitement, and are stimulants in the common acceptation of the term: when it is comparatively slow, they likewise give rise to excitement, produced however in so slow and imperceptible manner as not to be obvious, but to be inferred by a concomitant expenditure of the excitability: when a stimulant has an operation of the latter kind, it is in common language denominated a sedative.

The term sedative is here used to express the action of a stimulant slowly operating. When applied to digitalis, it has this sense; but it has another acceptation, when used to signify the negative operation of privative qualities: thus it is said that darkness and cold are sedatives.

In this last sense, its acceptation is exclusively relative: it has relation to a state of greater stimulation; and in that view it implies a diminution of excitement. This will appear evident, when it is considered that we are acquainted with no absolute privative qualities; for small degrees of heat or light are called sedative, only because their operation is privative in relation to that of the usual and grateful quantities of these fluids.

If these views be correct, it would appear that, although the use of the term sedative in this last sense may be convenient on many occasions, yet, in a strict scientific investigation, it should be discarded: it can be to no purpose to say, that the diminution of any

stimulant, acting on the human system, has the effect of lessening excitement, because that such must be the effect is evident; and, merely because language has supplied names to express certain relative privations, there is no shadow of reason why their negative effects should be embodied in a scientific arrangement, and suffered to assume the character of positive operations.

Thus much was thought necessary to be said as introductory to the consideration of the effects of heat, whether in excess or defect, upon the human body; for, the principal point of controversy relative to heat being on the manner of its operation during abstraction, it was deemed proper, before discussing it, to give an outline of the doctrine of stimulants and sedatives which would be assumed in the reasonings of this paper.

The matter of heat is undoubtedly stimulant; any accession of it to the human system shows this effect. The abstraction of the same fluid produces effects also: as the result of the operation of which agency shall we consider them, whether of the stimulant or sedative.

The opinion is held by many physicians, that the abstraction of heat, inasmuch as it produces very obvious effects, must be stimulant; and by some these effects are supposed to indicate a positive nature in cold, and to give probability to the opinion of the existence of frigorific particles. On the contrary, others denied that any stimulant effect arose from cold.

It must be acknowledged that a good deal may be said in favour of each of these opinions; for, upon an abstract logical consideration of the question, the mind is certainly compelled to conclude that the abstraction of heat could not be stimulant; and yet the arguments used to prove that it is, have the appearance of great plausibility.

It will appear, however, upon reflection, that this difference of opinion among physicians has arisen from their omitting to analyze the phenomena which occur upon the abstraction of heat from the human system. This neglect has prevented them from seeing the subject in that two-fold point of view which is essential to its proper comprehension; for, with a view to its effects upon the human system, the matter of heat may be considered, 1st, with reference to its relative excess or defect; and, 2dly, with reference to its velocity during accession or abstraction: considered with reference to its excess or defect merely, it is either stimulant or sedative; but, with reference to its velocity, always stimulant.

The human system in the healthy state is supplied, from an internal source, with a quantity of the caloric of temperature, superabundant when compared with that which is usual in the atmosphere: it is, therefore, in all common cases, undergoing, like heated bodies, the process of refrigeration. At a temperate heat of the atmosphere, one at which the refrigeration of the human body goes on neither so fast as to decrease its usual quantity of floating heat of temperature, nor so slow as to allow it to accumulate, no uneasy feeling is produced; for here the velocity of the

caloric, in passing off, is such as to stimulate irritability, but not sensibility, in consequence of the influence of habit; and the quantity of floating caloric of temperature being the same at every moment, it affords a constant and equable stimulus.

If the heat of the external air be a good deal less than temperate, the refrigeration of the body goes on faster than in ordinary times; consequently, the caloric, in leaving the surface, has a greater velocity than usual, and, by impinging upon the solids and fluids in passing out, stimulates both sensibility and irritability, and its impression upon the former produces the sensation of cold. As soon as the heat of the exterior of the body is diminished to such a degree as that by diminishing the rate of refrigeration, the loss of heat is not greater than the supply, in equal times, the sensation of cold ceases; since the cause of the sensation, namely, the increased velocity of the caloric in leaving the body, is removed. Hence it is that a person, upon going out of a warm room into the cold air in winter, feels at first the sensation of cold upon his face, but after some time that part becomes of a natural temperature to his sensations. This does not prove, however, that it is really of the ordinary animal heat; for, when touched by the hand of a person who has been in a warm room, it will give indications of a minute state as to temperature.

By the same mode of investigation, the effects of heat upon the body, when the temperature of the surrounding air is suddenly increased above temperate, may be traced in all their stages. Here, then, the state of refrigeration is first lessened; the heat of the body is next accumulated; whereupon the state of refrigeration is proportionably increased, until at length, by the recurrence of the original difference in temperature between the air and the body, the former rate of refrigeration is again established, and further accumulation prevented. The body now possesses an accession of caloric; yet, after the usual state of refrigeration is restored, there is reason to believe that the sensation of heat is considerably diminished.

In thus tracing the phenomena which attends the process of refrigeration in the human body, it is not meant to deny to it the power of regulating the production of its heat according to the state of its wants: on the contrary, it is believed that the human system has this power, but it is presumed that it cannot be exerted fully on a sudden exigency.

The subject may be further illustrated by the following examples:—

If the hand be placed in hot water, it is stimulated, as well because it receives an accession of heat, as that it receives that fluid moving with considerable velocity: if it be placed in water of a medium temperature, which is gradually increased, it is stimulated by the accession of heat only, its velocity during accession not having any appreciable effect. On the contrary, if the hand be plunged in very cold water, the operation, considered as one of the abstraction of heat merely, is certainly sedative; but, consi-

dered with reference to the velocity of the caloric in leaving the hand (which by the supposition will be considerable), it must be deemed a stimulant. Again, if the hand be plunged into water of its own temperature, but which is gradually cooled down to a low one, then the operation, considered as an abstraction of heat, has the effect of a sedative; and, considered with reference to the velocity of the caloric during abstraction, it has no perceptible effect of any kind.

In addition to those stated in the foregoing theory, one more mode, in which heat may stimulate during abstraction, will be suggested for consideration. May not this fluid, under such circumstances, stimulate indirectly by allowing a fuller energy of the attraction of cohesion between the particles of the solids and fluids of the body to take place? The elasticity of the matter of heat certainly affords the principal antagonist force to this attraction; and any circumstance, with respect to the motion of caloric, which should have the consequential operation of bringing the particles composing the human body into more energetic contact, must have, in that view, a stimulant effect.

The view here taken of this subject gains much evidence in its favour by considering the injurious effects produced by caloric, whether in excess or defect: it will be found that these depend almost exclusively on its velocity. The impression made by the contact of frozen mercury is said to resemble very much that from the contact of red-hot iron: now the effects produced in these cases cannot depend upon the amount of caloric lost or received, because that must be inconsiderable; they must, therefore, result from the disorganizing operation of the matter of heat traversing the solids and fluids with great velocity.

It will be found, upon examination, that almost every case which is adduced in proof of the stimulant operation of cold, is such a one as, by its conditions, supposes not a mere abstraction of heat, but an abstraction of that fluid with considerable velocity; while, on the other hand, cases of the gradual and almost imperceptible abstraction of heat are adduced in proof of the sedative operation of cold. Does it not hence appear probable that the true explanation of the great difference in the effects produced by abstracting heat in various cases is to be sought in the different velocities of the departing caloric under different circumstances?

There can be no well-founded reason for believing that the stimulating effects produced by the motion of caloric are modified by the direction in which such motion is established: on the contrary, it is very probable that the stimulus given to sensation by what is called heat and cold depends so entirely upon the velocity of caloric, that nearly, if not precisely, the same sensation would be produced by the same velocity of that fluid, whether established in the centripetal or centrifugal direction, with respect to the human body; and, taking for granted that the process of refrigeration is regulated by the same laws at all temperatures, if any part of the human body could be cooled down to 16 degrees below zero

without injury, such part would be as completely scalded by a sudden plunge into water of a temperature equal to the animal heat, as it would be, under ordinary circumstances, by immersion into that fluid at the boiling point.

The peculiar view which is here taken of the effects of heat upon the body attaches great importance to its velocity, and points to the necessity of an exact investigation of the laws which regulate the heating and cooling of bodies; it also supplies a more rational explanation of the manner in which animals endure exposure to high temperatures without injury; and, as this question is very particularly connected with the subject of this paper, it may be proper to examine the experiments of Sir CHARLES BLAGDEN, made to investigate this point. All his experiments went to prove that the human body could bear the contact of air, heated to 30 or 40 degrees above the boiling point of water, without much inconvenience; and the exposure to this great heat never produced a variation of more than a few degrees in the animal temperature. The singular results of the experiments were explained by Sir Charles Blagden, partly from the slow manner in which air communicates its heat, thereby allowing sufficient time for the human body to destroy it, and partly upon the process of evaporation: but his view of the subject will be better understood in his own words.

In the first paper,* Sir Charles Blagden, after enumerating the experiments, has these words:—"These experiments, therefore, prove in the clearest manner that the body has the power of destroying heat. To speak justly on this subject, we must call it a power of destroying a certain degree of heat, communicated with a certain quickness. Therefore, in estimating the heat which we are capable of resisting, it is necessary to take into consideration, not only what degrees of heat would be communicated to our bodies, if they possessed no resisting power, by the heated body, before the equilibrium of heat was effected, but also what time that heat would take in passing from the heated body into our bodies." He goes on further to say:—

"In consequence of this compound limitation of our resisting power, we bear very different degrees of heat in different mediums. The same person who felt no inconvenience from air heated to 211 degrees, could not bear quicksilver at 120 degrees, and could just bear spirit of wine at 130 degrees: that is, quicksilver, heated to 120 degrees, furnished more heat for the living powers to destroy than spirit heated to 130 degrees, or air to 211 degrees. And we had in the heated room, where our experiments were made, a striking, though familiar, instance of the same: all the pieces of metal there, even our watch-chains, felt so hot that we could scarcely bear to touch them for a moment; whilst the air from which the metal had derived its heat was only unpleasant."

In the concluding sentences of this quotation, the principle upon

* See *Philosophical Transactions*, vol. lxxv. part i. p. 119.

which the human body is capable of enduring a high temperature is made manifest. Let the circumstances of the body, when exposed as above described, be examined, and it will appear that the caloric of temperature of the skin, not being in a balanced state with respect to the heat of the air, was constantly receiving additions from that of the latter; but it was also in a minus state with relation to that of the watch-chains. Why, then, did the contact of the air, or of the metallic bodies, produce such different effects? Most assuredly, because the caloric of temperature issued from the latter bodies with considerable velocity in its tendency to come to a state of rest; whereas, this same kind of caloric leaves air comparatively slow, when influenced by the same tendency.

It would, therefore, appear that these experiments go very much to prove, in confirmation in part of the theory advocated, that accessions of heat merely, unattended by great velocity of that fluid, have comparatively little effect in stimulating the human system.

But, in reviewing the experiments performed in the heated rooms, it will be recollected that the animal temperature varied very little: how is this to be accounted for? The body could bear slow accessions of the heat of temperature from other bodies, without increasing its own heat of temperature: the heat, therefore, must have changed its state upon entering the human system; it must have assumed the form of latent caloric,—that state of this fluid in which it remains at rest, undisturbed by the plus or minus state of the caloric of temperature in surrounding bodies.

It is this capacity which the human body seems to possess under peculiar circumstances of rendering caloric latent, which Sir Charles Blagden calls a power of destroying heat. Dr. Dobson, however, suggests the explanation on the doctrine of latent heat.

If it be correct to suppose that the caloric became latent in these experiments, it must nevertheless be conceded that the body has a limit to its power of rendering it thus latent; and, although the human system may, by an exertion of its preservative power, increase its own capacity for heat, yet this increased capacity must be constantly approaching to a state of saturation: and hence, if the persons who were the subjects of the experiments, had remained sufficiently long in the heated rooms, there is fair reason to presume that, after a certain period, the animal temperature would commence to be gradually increased, until it became balanced with that of the surrounding heated medium.

After making these remarks, as giving the most probable explanation of the results of these experiments, it must not be concealed that some of the phenomena observed appear to militate against it. The conversion of the heat of temperature into latent heat has here been considered as depending upon an exertion of the vital power, not as taking place at the surface, and consequent upon the chemical laws of evaporation; yet the slow heating of certain kinds of dead matter, under equal circumstances of exposure to heated air, rather favours the opinion that possibly the maintaining the equal tenor of the animal temperature in such cases

may depend upon the same principle. What these appearances were will be seen from the following extracts from the experiments:—

Sir Charles Blagden mentions his having placed an earthen vessel containing pure water in one of the heated rooms, the temperature being perhaps 20 or 30 degrees above the boiling point: he goes on to say, "In one hour and a half the pure water was heated to 140 degrees of the thermometer." A little farther on he remarks, "The pure water never came near the boiling point, but continued stationary above an hour at a much lower degree." But afterwards he tells us, that, by dropping a small quantity of oil into it, the water at length came to boil very briskly.

Hence it would appear that pure water has a power, under circumstances of exposure to air heated above the boiling point, of resisting an increase of its temperature beyond a certain degree; for, in the above extract, it is stated that the temperature of the water experimented upon became stationary much below the boiling point. This depended, as Sir Charles Blagden remarks, upon the process of evaporation, which must be supposed to have taken place when the water was at the stationary point of temperature, at just such a rate as to be sufficient to render latent any accession of heat as soon as received. The truth of this explanation is rendered almost certain, since, upon the addition of oil (which acts by preventing evaporation), the water came at length to boil briskly.

Why, then, it will be asked, if evaporation from water should be sufficient to prevent an increase of temperature beyond a certain point in that fluid exposed to hot air, may not the evaporation from the human body, under similar exposure, prevent the increase of the animal temperature?—more especially, since it is probable that the same balance of received heat on the one hand, and absorbed heat by evaporation on the other, which takes place with respect to water when exposed to hot air at a comparatively high temperature, may occur, with respect to the human body, at the common animal heat.

Sir Charles Blagden admits, that, upon exposure to hot and comparatively dry air, the evaporation must prove a powerful assistant in keeping the body cool; but he cannot believe that it is ~~one~~ sufficient to keep it at a uniform temperature, for this reason, which is here given in his own words:—"Evaporation can act only in the gross way, and by no means in such nice proportion to the momentary exigencies of the animal as would be requisite for an exact preservation of its temperature." But it would appear that, if the explanation, on the principle of evaporation, was liable to no other difficulty than the one stated as above quoted, it could be satisfactorily made out; for, if the dryness of the air should remain the same, then, by a kind of physical necessity, the evaporation would be directly proportional to the heat of that medium at any moment, and would vary as to its amount upon every alteration, however small, of the heating cause.

But the strong objection to the explanation exclusively upon the principle of evaporation, is derived from the experiments detailed in Sir Charles Blagden's first paper; for here he informs us that the body, immersed in hot air loaded with vapour, so far from suffering any process of evaporation from its surface, acted as a condenser of the moisture held by the surrounding air, to such a degree that streams of water poured down its surface on all sides; and under these circumstances, also, the body preserved its animal temperature; but it must be noticed that the temperature of the heated air was not very considerable. Now it was satisfactorily ascertained that the aqueous fluid which appeared was not sweat, but condensed vapour, since a similar condensation took place upon the surface of a Florence flask filled with cold water, upon being brought into the heated room.

These experiments were, indeed, attended with curious results; but it is doubtful whether they afford any satisfactory explanation of the manner in which the human system can maintain an uniform animal heat, under circumstances of exposure to comparatively high temperatures. The nature of that power still remains enveloped in difficulty, and will perhaps continue so, until investigated with great diligence by means of other experiments in heated rooms, which should be varied in every possible manner, in order to elicit a consistent explanation.

Recapitulation.—1. All agents operative upon the human system are necessarily stimulants.

2. Stimulants differ in the promptitude with which they act. Some act quickly, others comparatively slow. They may be arranged in gradation, according to the promptitude of their action, from the quickest to the slowest in operation.

3. By one sense of the term sedative, a stimulant slowly operating is expressed.

4. By another acceptation of this term, the operation of a stimulant relatively defective is conveyed. The term is objected to in this sense; since an agent, which was a sedative at one time, might be a stimulant at another.

5. With a view to its effects on the human system, heat may be considered, 1st, with reference to its relative excess or defect; 2d, with reference to velocity during accession or abstraction. Considered with reference to the former, it is either stimulant or sedative; but with reference to the latter, always stimulant.

6. Quere? May not the abstraction of heat be indirectly stimulant, by allowing a fuller energy of the attraction of cohesion to take place?

7. The stimulating effects of caloric, as far as they depend on motion, are not modified by the direction, whether centripetal or centrifugal, in which such motion is established with respect to the human body.

8. The view here taken attaches particular importance to the velocity of caloric, in judging of its effects upon the human body: this points to the necessity of investigating carefully the laws which regulate the heating and cooling of bodies.

9. It would appear that the human body is capable of enduring the contact of hot air without raising its own temperature; on account of the slow conducting power of air, on account of evaporation, and of the power which the body seems to possess of increasing its capacity for heat. If it has the last-mentioned power, it can exert it to a certain extent only.

10. Water, exposed to heated air, resists an increase of its temperature beyond a certain point, by the evaporation which takes place from its surface.

11. But the maintenance of the equal tenor of animal temperature cannot be explained exclusively on this principle; because the human body exerts the same resistance to an increase of its temperature, when, so far from any evaporation going on from its surface, it acts as a condenser of the vapour held by a surrounding heated medium.—(*American Medical Recorder*, vol. i.)

Case of Tubercular Leprosy: by M. ALIBERT.

M. DUPUIS, a native of the north of France, had resided eleven years at Marseilles, and passed three campaigns in the army of Italy, when he went, in 1801, to the Isle of France; where he remained nine years, enjoying good health. He had left that island several months, and was on the way to France, when, with the joy he felt in the expectation of soon seeing again his native country, he felt a dread that he should arrive there in a state of sickness. Within twenty-four hours after he had experienced the latter emotion, his body became covered with large patches of a reddish-violet colour, which were tender to the touch, but were not accompanied with derangement of the general health. On arriving home he consulted a physician, who merely directed the use of some bitter infusion and the warm-bath.

This treatment was continued for fifteen months without benefit; when some other practitioner ordered sulphurous baths, and the frequent use of purgatives. Under the influence of these means, the blotches in part disappeared, and of those that remained a change of colour was observed. Some months afterwards, tubercles, of the size of a nut, appeared on the thighs and along the spine, containing puriform matter. Another physician was then consulted, who considered the disease to be syphilitic, and directed mercurials; which were administered for a year without being productive of benefit. The patient then went to Rochefort, to see some persons who had resided in India, and were said to be well versed in the knowledge of such diseases. They recognized it as leprosy, and advised the use of sulphur and the baths of the water of Bagnères, both internally and externally. This advice was followed for two months; when the patient returned home nearly in the same state as that in which he had left it.

After this, the legs became swelled, the skin hard and covered with scales, and large tubercles appeared on the face: the voice of the patient became altered, his sight weakened, and his breath

fetid. After having been two months in the hospital at Rochefort, he went to Paris. The feet and legs were then much tumified, and the skin covering those parts hard and wrinkled; it was also covered with elevations of a greyish colour, which gave to the extremities somewhat the appearance of those of the elephant. There were numerous violet-coloured blotches on the thighs, and several large pustules, covered with a thick crust confining a white, adhesive, and fetid matter. The trunk of the body was free from disease; but the face had an hideous aspect: the loss of the hair of the eye-brows, the eye-lashes, and the beard; the deep wrinkles on the forehead; the hard tubercles; the yellow crusts covering the cheeks, particularly on the right side; the largeness of the nose, and tumefaction of the lips,—gave to it an expression that was hardly human.

His sight was considerably weakened; odours made but a slight impression on the pituitary membrane of the nostrils, which was in a state of ulceration; the hearing was difficult; the voice hoarse, and speech hardly to be understood; and the sense of touch only remained about the extremities of the fingers, and on the palms of the hands; the sense of taste remained unimpaired, but there were two large tubercles on the middle of the tongue, which arose from the cellular tissue beneath the mucous membrane. There was considerable stiffness in the articulations of the instep, which rendered walking extremely slow and difficult. The trunk of the body alone was covered with a copious sweat during the night; there was a frequent evacuation of the urine; the pulse full, but very slow; and the sleep, though long continued, interrupted by terrific dreams.

Sulphurous baths and fumigations, and the use of sulphur and arsenic internally, judiciously exhibited, have produced so much amelioration in this disease, as to lead to an expectation that a cure of it will at length be effected.*

Description of Professor DUPUYTREN'S Operation for Fistula Lacrymalis.

THE extraordinary and peculiar success with which the eminent surgeon above mentioned has for many years treated fistula lacrymalis, induces us to intrude on the attention of our readers (many of whom, we presume, are unacquainted with it,) a brief description of his mode of operating for the cure of that disease.

An incision is first made in the anterior part of the lacrymal sac, through which a golden canula, appropriate in its shape and dimension to the course of the lacrymal duct and the age of the patient,†

* *Journal complémentaire du Dict. des Sciences Med.* tome ii.

+ A description of the canula could not be conveyed with sufficient accuracy, without a graphical representation of it. That instrument may be obtained from LESUEUR, surgical instrument maker, Rue des Mathurins-Sorbonne, at Paris.

is introduced into the lacrymal duct, and, by means of a round-pointed stilette (having a handle two inches in length, making an obtuse angle of about 120 degrees with the other part, which is about twenty lines in length, and of a conical shape,) it is carried below the artificial opening, and reaches the level of the nasal fossa. The wound in the lacrymal sac is then covered with adhesive plaster, and usually cicatrizes in a day or two; when the disease is cured. In a few instances, however, the canula produces a degree of inflammation of the lacrymal duct and sac, which is productive of a little inconvenience; but hardly ever such as to prevent the final success of the operation. In a very few cases, also, the presence of the canula seems to produce retroverted action of the duct, and the instrument is forced upwards, and causes inflammation of the lacrymal sac: this accident is remedied by restoring the canula to its former situation, and keeping it there by pressure, if necessary. The canula (it is obvious, we presume, from the above description,) is suffered to remain in the lacrymal duct; and this appears to be the only mode of treating fistula lacrymalis, hitherto employed, that is permanently efficacious in the greater proportion of the cases of that disease.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

WE shall devote a portion of the present Number of our Journal to a subject solely of local interest, which has been brought before the public by Mr. JAMES PARKINSON;* that of the propriety of establishing fever-wards in the different parishes of the metropolis.

The discussions that were commenced a short time since respecting the essential origin of the fever that has lately prevailed to a considerable extent in London and its suburbs, led to expectations that they would terminate in some decisive conclusions on that point; but they suddenly terminated with the public alarm that gave rise to them, without having effected what was so much to be desired.

Particular enquiries respecting the opinions of the generality of physicians, have shown that nearly all those who have had the most extensive opportunities for observation are disposed to consider it as essentially contagious; though its dissemination and effects are considerably influenced by local situations, and the habits and conditions of the patients of the exciting cause. Mr. Parkinson,

* In a pamphlet entitled "Observations on the Necessity of Parochial Fever-Wards; with Remarks on the present extensive Spread of Fever; by James Parkinson, Member of the Royal College of Surgeons."—8vo. pp. 20. Sherwood and Co. London.

who appears to have given much attention to the subject, is of this opinion. He thinks that the disease under consideration may be referred to a fever that occurred in the inhabitants of some houses in a court in Kingsland-road, in the parish of St. Leonard, Shoreditch; whence he traces it to its present epidemic state. Although many circumstances he details appear to show that local situation was essentially connected with its origin in some instances; yet other facts equally favour the opinion that it has, in other cases, been dispersed by contagion. But, whichever of these views be correct, the propriety of the measure urged by Mr. Parkinson with so much laudable zeal, is sufficiently obvious. The numerous scenes of wretchedness that he has witnessed in consequence of the ravages of the prevalent fever, where the victims have suffered every privation, in consequence of their inability to procure hired nurses, and the fears of their neighbours depriving them of gratuitous domestic aid, are such as cannot fail to excite the attention of all those who may become acquainted with them, and lead to exertions for the prevention of similar calamities in future.

"The first measure which should be adopted," says Mr. Parkinson, "is that of the establishment of fever-wards. It is, indeed, astonishing, in an age distinguished for its flow of charity and kindly consideration of the poor, that the warning voice of the Society for bettering the Condition of the Poor, and the anxious remonstrances of numerous respectable and benevolent individuals, have yet produced the establishment of only one place, furnished with accommodations for about seventy patients, for the reception of the pauper fever patients of London and its environs.

"An establishment with eighteen beds (six for males, and twelve for females,) would, it is expected, be sufficient for the paupers belonging to a parish whose population is from 40 to 50,000 persons; and the beds and the building might always be usefully employed as an infirmary, when the fever was subdued."

After having demonstrated the evil, and, indeed, the fatal consequences, of either keeping fever-patients in their lodging-houses, or of sending them to the poor-house, Mr. Parkinson briefly points out the advantages of placing them in a fever-ward.

"Immediately as a patient is affected with fever," he observes, "he is removed thither by a proper conveyance, his tatters immersed in water, and he is carefully washed and consigned to this ward; in which would be secured the means of ventilation and purification, the patient would gain every chance of his recovery, whilst the air of the ward itself would be preserved innoxious, and consequently the attendants would be exposed to much less danger. The patient, on his recovery, would be supplied with fresh clothing, and would return to society, no longer conveying about with him the poison of pestilence.

"Satisfied," continues the author, "that those to whom these lines are more particularly addressed are anxious to promote, on every occasion, the comfort of the poor and the welfare of society, not the slightest fear is entertained of all due attention being paid

to these suggestions, offered with combined earnestness and respect."

After pointing out the several advantages of minor importance that would ensue from the adoption of the measure he advises, Mr. Parkinson concludes with remarking, that, "should every parish provide fever-wards for their own poor, the necessity would still continue for the liberal support of the more general institution of this kind. Where else would be sent the servant, or other inmate, who ought not to have parochial relief claimed for them; but who, for the safety of the families with whom they reside, require immediate removal and separation from the healthy? Where could be sent the wretched and unprotected Irish poor, suffering here, in their own country, as it is called, all the privations and miseries of exile?"

THERE are few medical practitioners, we presume, who are unacquainted with the great and extensive influence which the contents of the Medical and Physical Journal had in the establishment of *vaccine inoculation*; and, for several years after that practice was first adopted, this Journal was the medium through which the most important information respecting it was originally conveyed to the public, as well as that in which much interesting discussion on it was pursued. A disposition to let nothing of consequence respecting it pass unrecorded in this work, leads us to notice a *Memoir on the present State of Vaccination*, by Mr. THOMAS BROWN, of Musselburgh, which has recently appeared in the fifty-eighth Number of the Edinburgh Medical and Surgical Journal, notwithstanding that it contains observations and remarks adverse to the interests of this subject.

Mr. Brown was one of the most early promoters of vaccination in Scotland, and continued to pursue the practice with unremitting zeal until the year 1808; before which time he had inoculated upwards of 1200 patients. At the time just referred to, some facts occurred to his observation which shook his confidence in the prophylactic powers of this measure against small-pox, and made him suspect that it would lead to the most serious evils, at some future period, in the consequences that would necessarily result from it should his fears prove well-founded. Mr. Brown then made public his observations and his sentiments respecting them; but the reliance placed on the measure they were intended to reprobate was so firm as to be proof against any temporary opposing force, however powerful and well directed.

The facts which extensive enquiries and attentive investigation have since then brought to the observation of Mr. Brown, and more especially those which have recently occurred to such an extent in various parts of Europe, have made such an impression on the mind of this intelligent surgeon, as to induce him again to press his opinions respecting them on the attention of medical practitioners.

After noticing the mild, and comparatively short, character that small-pox had assumed when

disease had been generally adopted, and some physiological phenomena, which he thinks would alone show the little power possessed by cow-pox to destroy essentially the influence of the virus of the former, Mr. Brown observes, that—

" Experience and experiment have shown that, upon having recourse to exposure to the epidemic small-pox, some years after having undergone vaccination, the individual is found to be influenced more or less by the contagion, and is liable to the disease of small-pox; and, if inoculation with small-pox is again tried at the interval of some years from vaccination, not only the perfect local phenomena of small-pox inoculation will be obtained, but also fever and eruption; and these two tests will now, in general, be found to exert their influence upon the constitution, exactly in conformity with the distance of the period from vaccination."

" In conformity with this observation, experience has shown that, for the first two or three years after the introduction of vaccination in Great Britain, scarcely a case of failure was heard of; but afterwards they have been gradually increasing in number and severity every successive year; and that the number of such cases of failure have been met with, in the respective situations, exactly in proportion to the early introduction of the Jennerian practice, the extent of population, and the proportion of the lower classes of the community.

" The accounts from all quarters of the world, wherever vaccination has been introduced, are assuming exactly the same aspect; and, at the present period, it cannot be disputed that the cases of failure are now increased to an alarming proportion; and, from a fair and impartial examination, it appears, where the small-pox contagion has access to operate upon vaccinated cases of upwards of six years' standing, and the contagion applied in a concentrated and lasting form, nearly the whole of such cases will yield to the influence of the small-pox contagion."—

— " In examining my own practice," Mr. Brown observes, in another part of his Memoir, " few or none escaped at the distance of six years after vaccination, that were placed in circumstances favourable for the operation of the epidemic; very few at four years; and the greatest number who resisted the contagion were either within four years, or not exposed to a concentrated and extensive application of the contagion."

We shall continue to transcribe the most important passages of the Memoir of Mr. Brown, without offering any comments on them; although, in justice to him, we must remark that he constantly refers to facts which he considers will prove the correctness of the assertions he has advanced.

" But it is not only in the number of failures that this subject becomes alarming, it is also in the severity of the disease; and at this period many of the instances of failure not only assume the most severe form of the distinct disease, but also have been confluent; and death has followed in a considerable number of cases."—

"It appears that neither this unfortunate imperfection of the vaccine process in giving security against small-pox contagion, nor of the variety in the phenomena which the process may undergo, can admit of any remedy. The vaccinations conducted by Dr. Jenner, by public institutions, by private practitioners, by ministers, midwives, or farriers, all have failed; whether the process has been conducted by one puncture, by two, or even by four; or whether the eventful test has been applied; all have fallen short of the desired effect. The truth is, the only difference of the modes of conducting the vaccine process rests merely in extending or diminishing the period of security *a year or two*, and is but of little consequence exactly to ascertain.

"I am decidedly of opinion, there is no mode of giving the vaccine disease by inoculation, which can impart *perfect and permanent security* against small-pox contagion; and I apprehend it is impossible to give the disease in any other form, to obtain that effect. For, if any one will attentively examine the whole history of vaccination, from Dr. Jenner's publications downwards, he will find the proof of its powers to impart *permanent security* almost gratuitous."—"Indeed, Dr. Jenner's cases do not amount to thirty, where he stated such exemption had reached to the extent of thirty years, or for life; and certainly there is no improbability, or impossibility, in supposing such number either to be kept in a state of security, from continuing to exercise the office of milker, or to be those peculiarities of constitution not susceptible of small-pox; which number is certainly not too many to exist in the populous county of Gloucester."—

"With regard to the curious excuse contrived by Mr. Bryce to defeat those cases of small-pox which have occurred after his vaccinations, viz.—that, although the vaccine phenomena are all present, and exist in their most perfect form, still the constitution is not affected by the vaccine disease, and is left exposed to the influence of small-pox contagion: I really think, if we were to admit such a defence, it might be fairly concluded we have bid an eternal adieu to the exercise of our judgment. I shall leave it for you to determine, if it is not ridiculous and absurd in the extreme, after having described vaccination as so simple and so uniform, and to consist of certain phenomena which were invariably found to produce such an effect upon the constitution as to prevent any further effects from a second vaccination; to resist small-pox inoculation, and exposure to the epidemic; and also, at first, nearly to annihilate the small-pox wherever the practice existed to any extent;—to come forward and maintain, merely because small-pox have succeeded to vaccination, that the process is intricate, uncertain, and difficult to conduct; that there are none of the phenomena to be depended upon as indicating the action of vaccination upon the system; that the resistance of the tests of re-vaccination, inoculation, or exposure to the epidemic, is not to be depended upon;

* Mr. Bryce's method of vaccinating with the test puncture.

that, although symptoms marking a constitutional derangement are present during the existence of the vaccine phenomena, still it is not owing to that process, *but to some diseased action of the constitution*; that the production of a small-pox pustule by inoculating those who had undergone vaccination some years before was of no consequence, even although attended with an areola and constitutional disorder, because it is a matter of fact, and is either well known, or ought to be known, to every surgeon, that these can be produced at pleasure; and one of the gentlemen connected with the vaccine establishment in Edinburgh has kept up a supply of small-pox matter for inoculation, by successively inoculating his own arm. The scab or crust which remains after the disease was completed, which was supposed to indicate the perfect disease, is, *after the failure has taken place*, found out to be too little or too large, too light or too dark, to have fallen off too early or too late. The cicatrix, too, is declared, if little, to prove that the local affection has been trifling and imperfect; and, if large, it indicates some other diseased action. If the cicatrix is deep or superficial, the same conclusions are drawn. Nay, if it is of the very exact dimensions, still it is too much indented or serrated to allow the process to have been complete. Here I may surely be allowed to enquire, what length are their excuses, and the good humour and indulgence of the public, to be carried? Nothing but the most desperate and headstrong zeal can demand credit for such a tissue of absurdity; and I conceive it perfectly sufficient to enumerate them, in order to produce their refutation and expose their folly.

"The next reason given for still placing confidence in the efficacy of the vaccine inoculation, is 'that a very large proportion is still found to resist the influence of the small-pox contagion.'

"Those gentlemen who have stated this as a sufficient argument for persevering in the vaccine inoculation, do not even hint at what they mean by a very large proportion; but, when we examine the different results which experience now affords, we shall find the most decisive evidence for rejecting any hopes which may be entertained from this quarter."

"I cannot close this part of our subject without noticing a fact which has been triumphantly (but, in my opinion, very injudiciously and imprudently) employed by the supporters of the vaccine inoculation, for recommending this practice to public confidence: —I mean, that cases of failure have been much more numerous amongst the lower than the higher classes of society. Surely, it is madness itself to contend we have been so base and wicked as to have vaccinated the rich perfectly, and the poor imperfectly; and, if this were the fact, the utility of our vaccine establishments must be more than questionable, as their practice is almost exclusively confined to the lower orders of the community. But this fact can be satisfactorily explained, and is, upon a little reflection, quite obvious. It is well known the higher orders of society uniformly availed themselves either of inoculation or vaccination, and, as they all attend schools, and even in their amusements are still

Mongst themselves, it is evident small-pox contagion cannot reach them so readily; but, wherever they have been placed in the same circumstances, the same result has uniformly followed; and now these orders of society are taught, from experience, their tenderest concerns have been no better protected than their neighbours. Indeed, this fact, far from being employed as a bait and recommendation, ought, on the contrary, to be considered as the strongest argument against the practice. I am afraid those very individuals, who flatter themselves with this exception, and reject with disdain, and even horror, every attempt to expose the imperfection of the vaccine inoculation, will ultimately prove the only sufferers; as they may avoid the influence of the small-pox contagion while the power of vaccination is yet capable of mitigating the variolous influence, and may be afterwards infected with small-pox, when all the influence of the vaccine disease is exhausted, and left completely at the mercy of the epidemic."—

" We come now to a reason which is made use of by the determined supporters of the vaccine inoculation, which, to my apprehension, is the most singular deviation from the result of general experience to be met with in the whole history of medicine:—I mean, where they allege ' that the security imparted either by the inoculated or natural small-pox is not greater than what is obtained from the vaccine; ' or, in other words, ' that small-pox are as liable to occur twice in the same person, as where small-pox are found to occur after cow-pock.' Indeed, this reason appears to me so ridiculous and destitute of all truth, as not to deserve the smallest attention. But, besides what we have formerly noticed, which may be considered as a sufficient answer to so strange an aberration from all experience, we shall also observe, the experience of a thousand years of the natural, and nearly a century of the inoculated, small-pox, have distinctly proved that it may be adopted as a determined general fact,—whoever has once passed through the small-pox in a satisfactory manner will not again be subjected to that disease."—

" We come now to a very curious, and, I rather think, somewhat whimsical, attempt to defend the Jennerian discovery:—I allude to an opinion lately suggested by some medical gentlemen, ' that variola, varicella, and modified small-pox after cow-pock, arise from one and the same contagion; ' or, according to my apprehension, ' are one and the same disease.' "

" It is really truly surprising that this vaccine inoculation, which was once so simple, so uniform, and so satisfactory, should now become such a puzzle as nearly to overturn the most established principles in the whole history of medicine, and that every well-known fact must bend merely in compliment to those who have staked their existence upon the success of vaccination. This suggestion seems to me devoid of all support from experience and analogy; and, if these gentlemen are to be allowed to change their ground in this very extraordinary manner, it will certainly be a Herculean task to compel them to surrender.

"I can assure you, from an experience of thirty years' full practice, that I have frequently seen varicella prevailing as an epidemic, and not a case of small-pox known in the town or whole neighbourhood: that this was the case during the last winter and spring, and not a case of small-pox existed in Musselburgh. I have also uniformly observed, that varicella goes through the children of the family, with all its characters, in the same manner as variola or rubeola would do; and, both before and since the introduction of vaccination, it has regularly prevailed in the families where the children had all been either previously inoculated or vaccinated. The varicella has been also equally prevalent since the introduction of vaccination, and has attacked children even a month or two after they had undergone the vaccine process. It ought also to have occurred to these gentlemen, that the disease of varicella could not have been less frequent since the introduction of vaccination; for, according to even the advocates of vaccination, cases of varicella have not only been more numerous, but also have been stated to have become fatal since the introduction of the Jennerian practice.* But I apprehend there is not the smallest reason for torturing the proof upon this occasion, as the experience of every medical practitioner must declare, that none but the vaccinated children have been subjected to the influence of small-pox, while all the rest of the family escaped."—

"I have now nearly got through the different reasons urged by the zealous supporters of vaccination, for our persevering to place our confidence in the vaccine inoculation; but, before concluding, I must also notice the very improper defence which is attempted to be obtained by dragging forward the experience of other countries. It surely cannot be fairly contended, that the country in which the disease has had its origin, and by the exertions of which it has been extended over a great part of the globe, can possibly be deficient in that skill and attention necessary for tracing its effects and consequences; and that, after having introduced the disease, we must surrender up our qualifications for farther observation to the medical practitioners of other countries, and only in future be directed by them. The doctrine is so monstrous and absurd as to require no further comment. On the contrary, I apprehend, a heavy responsibility rests upon the medical profession of this kingdom; and it is our peculiar duty to watch over the practice with the most anxious and disinterested concern, that we may not only guard our own, but the security of those whom we have encouraged to place their confidence in the Jennerian discovery, and not allow ourselves to be detected and exposed by those who, in this disease at least, we are entitled to take precedence of; for it is particularly to be remembered, that the vaccine practice is exactly following the same course it has done in this country, and cases of failure are rapidly accumulating in every situation."

* "Which last cases, I have no doubt, were all instances of small-pox after cow-pock."

*Hospital for the Small-Pox, for Inoculation, and for Vaccination,
at Pancras.*

An Account of the Number of Deaths occasioned by the Casual Small-Pox, extracted from the register for twenty years before the practice of Vaccination, and also for twenty years since; also the Number of Deaths as reported by the Parish Clerks of London, &c. copied from their general Bills of all Christenings and Burials for the same periods:—

<i>Before Vaccination.</i>			<i>Since Vaccination.</i>		
A.D.	Hosp. Reg.	Par. Reg.	A.D.	Hosp. Reg.	Par. Reg.
1779 to 1798	1867	36,189	1799 to 1818	814	22,480

Decreased in deaths since the practice of vaccination was introduced—at the Hospital, 1053; in the Parishes, 13,709.

Vaccination was introduced into practice at the Hospital for Inoculation, by Dr. Wm. Woodville, with the disease taken from the cows belonging to Thomas Harrison, esq. of Gray's Inn-road, on the 19th January, 1799. Six patients were vaccinated by the Doctor, in the presence of Sir J. Banks, bart. Sir W. Watson, Drs. Garthshore, George Pearson, Robert Willan, and several other medical gentlemen. The number vaccinated from that date to the 1st of January, 1819, amounted to 43,394 at this Hospital.

J. C. WACHSEL, Resident Surgeon.

BILLS OF MORTALITY.

By the Company of Parish Clerks of London, for the Year 1818.

Diseases and Casualties for the Year 1818.

DISEASES.	Inflammation	1203	Water on the Brain	406	
Abscess	103	Jaundice	91	Worms	6
Aged	1923	Jaw Locked	1		
Ague	1	Liver complaint	72		
Apoplexy and Sud- denly	512	Lunacy	228	Broken Limbs	1
Asthma	859	Measles	728	Burnt	33
Cancer	97	Miscarriage	2	Drowned	117
Canker	1	Mortification	368	Excessive Drinking	5
Chicken-pox	2	Palpitation of the Heart	7	Executed	11
Childbed	221	Palsy	187	Found Dead	14
Consumption	4242	Pleurisy	15	Fractured	1
Convulsions	3205	Rheumatism	13	Frightened	3
Cough and Hooping Cough	839	Rupture	38	Killed by Falls & se- veral other Accidents	92
Croup	113	Scrofula	12	Killed by Fighting	1
Dropsy	709	Small-pox	421	Murdered	2
Dysentery	16	Sore Throat	11	Poisoned	6
Fevers of all kinds	1170	Spasm	78	Scalded	8
Fistula	9	St Anthony's Fire	8	Starved	1
Gout	58	Still-born	654	Strangled	1
Gravel, Stone, Stran- gury	17	Teething	445	Suffocated	8
Hemorrhage	43	Thrush	107	Suicides	40
		Venerale	19	Total	314
		Water in the Chest	101		

Christened { Males 12,530 } In all 24,253
 Females 11,703 }

Buried { Males 9,883 } In all 19,705
 Females 9,923 }

Whereof have died,

Under Two Years of Age	5381	Sixty and Seventy	1585
Between Two and Five	1815	Seventy and Eighty	1271
Five and Ten	808	Eighty and Ninety	722
Ten and Twenty	703	Ninety and a Hundred	175
Twenty and Thirty	1453	A Hundred	1
Thirty and Forty	1884	A Hundred and One	1
Forty and Fifty	2040	A Hundred and Three	1
Fifty and Sixty	1864	A Hundred and Five	1

Decreased in the Burials this Year 263.

There have been Executed in the City of London and County of Surrey 24; of which Number 11 only have been reported to be buried within the Bills of Mortality.

MONTHLY CATALOGUE OF MEDICAL BOOKS.

A Lecture on Drop-y; by George Gregory, M.D. 8vo. 2s.

An Appendix to the Pamphlet on the Early Symptoms of Water in the Brain; containing Cases successfully treated; with practical Illustrations of the Doctrines therein inculcated, and some Observations on the Functions of the Intestines, as connected with a Morbid Action of the Digestive Organs. By G. D. Yeats, M.D. 8vo. 3s.

Practical Observations on the Treatment, Pathology, and Prevention, of Typhous Fever; by Edward Percival, M.B. M.R.I.A. &c. &c. 8vo. boards, 7s.

Remarks on Scepticism, especially as it is connected with the Subjects of Organization and Life; being an Answer to the Views of M. Bichat, Sir T. C. Morgan, and Mr. Lawrence, upon those Points. 8vo. 5s. 6d.

A Treatise on Midwifery; developing new Principles, which tend materially to lessen the Sufferings of the Patient, and shorten the Duration of Labour. By John Power, Accoucheur, &c. 8vo. 8s.

Facts and Observations relative to the Fever commonly called Puerperal; by John Armstrong, M.D. Second Edition, considerably enlarged. 8vo. 8s.

A Series of Engravings, representing the Bones of the Human Skeleton, with the Skeletons of some of the lower Animals; by Edward Mitchell, Engraver, Edinburgh. The explanatory References, by John Barclay, M.D.

An Essay on Fracture of the Patella, or Knee-pan; containing a new and efficacious Method of treating that Accident, by which the Deformity and Lameness that arise from the old and common Mode of Treatment are avoided; by John Sheldon, F.R.S. A new Edition, with additional Notes; by an Hospital Surgeon. 8vo. 2s. 6d.

The Elements of Natural Philosophy, illustrated throughout by Experiments which may be performed without regular Apparatus; by James Mitchell, M.A. 12mo. 8s.

REPORT OF DISEASES.

THREE has been no decided variation in the general character of the prevalent fever from that which it possessed during the preceding month. This subject will, therefore, not detain us on the present occasion.

Inflammation of the mucous membrane of the respiratory organs continues to occur with increased frequency. Many cases have been witnessed, especially in elderly persons, where the excitation has been transferred to the serous membranes of the cavity of the chest, giving rise to hydro-thorax. The former affection has subsided, and, after a few days, or sometimes several weeks, the symptoms of the latter malady have appeared. Continued experience increases our confidence in the opinion that hydro-thorax is, in by far the greater proportion of cases, the consequence of irritation, or inflammation, of the serous membranes of the pectoral cavity. A degree of irritation, or of inflammation, may exist in membranous parts, without being attended with pain, which will induce increased effusion from the exhalants; and thence it is often not detected until the latter effects have ensued. It is in these cases that digitalis has been so beneficial as to lead to the general, and almost indiscriminate, use of that remedy in this affection. We have, in many instances, joined with it local or general bleeding, with the most fortunate results. Repeated blistering, or (what is equally efficacious and much less disagreeable) the production of a pustular rash on the chest by tartar-emetic ointment, should not be neglected.

Croup has been rather frequent amongst infants; and, as usual, has terminated fatally in a considerable proportion of cases, in consequence of its having been neglected in its early stage. We have lately seen one instance which showed, in a forcible manner, the importance of the advice of Professor Schwilgue,—that, on visiting an infant whose complaint may probably be that under consideration, the medical attendant should wait until he witnesses a fit of coughing; he will then detect the nature of the disease, when the freedom of respiration during the intervals might lead him to consider the complaint of but little importance. In the case to which we have alluded, the medical practitioner was deceived from the cause above mentioned, until the disease had assumed its most alarming form. The appropriate mode for the treatment of this serious malady is, we believe, generally employed with sufficient assiduity; yet we would endeavour to impress on the mind of the young practitioner the importance attached to exhibition of an active dose of calomel and jalap immediately after blood-letting; and that in this, as in all cases where the prompt and decisive effects of antimony are required, tartar emetic should be used in preference to the antimonial or James's powder; and that the doses of this medicine should be repeated at least once in an hour.*

Hæmoptœ is somewhat prevalent, and in a few cases has terminated in pneumonia of a serious character.

Dysenteric affections have been rather frequent. These are, however, but trifling in comparison with the fatal malady, similarly denominated, that desolates our armies in moist and hot climates. In enquiring into their cause, the *διὰ τὸν κοιλίν σκληρότητα*, so incessantly uttered by Hippocrates, immediately and almost constantly presents itself to the civic practitioner; especially in England, where animal food constitutes so large a proportion of the aliment of persons of all ranks.

This is the season for the fatal termination of pulmonary consumption;

* We are particularly anxious to direct the attention of the younger part of our readers to this powerful and valuable remedy: Those who may not be already acquainted with it will derive much useful information from the work of Dr. Balfour, which we noticed in a late Number of our Journal.

and it is that also in which the victims of that malady are most disposed to indulge hopes of the restoration of health. Many causes contribute to produce this delusion. The patients have passed through the chief part of the winter; they feel relieved from much distress; their respiration has become more easy; nothing but cough and weakness, they say, remain. But the influence of winter has produced its irremediable effects; by hurrying on the inflammatory state of the malady, it has conducted it to its final stage. When suppuration is fully established, the difficulty of breathing and cough are often considerably mitigated; but these circumstances will not delude the accurate and experienced observer.

METEOROLOGICAL JOURNAL,

By Messrs. WILLIAM HARRIS and Co. 50, Holborn, London.

From the 20th January to the 19th February, 1819, inclusive.

Day of Month.	Moon.	Rain gauge	THERM.	BAROM.	De Luc's HYGROM.		Wind.	Atmospheric Variation.
					Dry	Damp		
Jan.								
20		39 41 37	29-67	29-48	11	11	SSW	S
21		39 43 39	29-50	29-58	12	12	S	SW
22		41 45 38	29-70	20-48	12	12	SSW	SW
23		41 47 40	29-65	29-79	13	12	SSW	S
24		44 49 40	29-62	29-55	10	11	SE	SE
25		43 46 40	29-44	29-42	11	13	SSE	SSW
26	②	43 45 42	29-48	29-52	11	11	S	ESE
27		45 47 39	29-41	29-40	11	12	SW	S
28		42 47 41	29-43	29-55	11	11	S	S
29		44 50 40	29-49	29-46	11	10	SE	ENE
30		44 48 39	29-39	29-42	12	11	ENE	N
31		41 46 34	29-51	29-65	10	10	N	NNW
Feb.								
1		34 38 33	29-64	29-57	10	11	SE	SW
2	○	35 38 30	29-61	29-78	9	10	NNW	W
3		33 37 38	29-58	29-52	10	10	N	W
4		41 46 39	29-70	29-84	10	11	WNW	WSW
5		42 45 40	29-72	29-65	11	12	SW	SW
6		40 43 42	29-67	29-65	11	12	SW	W
7		45 47 58	29-65	29-60	11	11	S W	SW
8		41 46 44	29-89	30-02	11	12	WSW	SW
9		46 49 41	29-94	29-80	14	14	SW	SSW
10	○	43 47 40	29-88	30-07	11	11	SW	SW
11		43 47 39	29-98	29-92	10	10	SW	W
12		40 46 40	29-88	29-62	11	13	WSW	W
13		42 46 38	29-85	29-91	12	15	W	NW
14		40 43 37	30-00	30-11	15	14	NW	W
15		40 46 35	30-00	29-70	12	12	W	W
16		40 46 36	29-61	29-44	12	15	SW	SSW
17	○	39 46 35	29-50	29-54	14	12	SSW	S
18		41 47 38	29-64	29-55	13	15	W	S
19		44 49 40	29-61	29-73	13	12	SW	W

The probable (the gauge being not quite perfect) quantity of rain fallen in January is 2 inch and 11-100ths.