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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.

Historical Account of the Progress of Chemistry, as applicable to Medicine; from June 1818 to January 1819.

“All material substances are either combinations, or the particles of which combinations are formed; these particles, termed atoms, are indivisible and immutable: were it not thus, all the objects we contemplate would long since have been destroyed.—We must not attribute to these atoms any of the qualities of those bodies which are evident to our senses, except density, magnitude, figure, and what necessarily appertains to figure: for all the qualities of sensible bodies change, but those of atoms are unalterable.—It is from the combination of atoms possessed of different qualities, in different numbers and relative proportions, that all the objects we perceive are formed; just as the varieties of expression in written language are composed of the letters of the alphabet variously arranged.”

EPICURUS, apud *DIOGENES LAERTIUS*, (*passim*).

NO reflections lead to more exalted ideas of the power of the human mind, than those excited by contemplation of the opinions which philosophers in different ages have formed respecting the nature of physical objects, and the laws by which their actions are regulated, solely from observation of their evident qualities under natural circumstances: opinions, the establishing of the truth of which has conferred honour on subsequent votaries of science, who have been enabled to effect this only after long and laborious investigation, aided by all the additional powers which the arts can supply to the natural faculties of man. Many erroneous notions have certainly been adopted from such a mode of contemplating nature; but, on the contrary, many of the most profound and important truths have thus been developed. The consideration of the opinions of Epicurus respecting the general nature of the material universe will

evinced the correctness of this observation. The mutual and relative influence of preconception and experiment in the acquisition of knowledge, constitutes an interesting subject for philosophical enquiry, and much benefit may be anticipated from its pursuit: we had collected some observations tending to show its importance, but we find the relation of them would occupy more space than could with propriety be consigned to a subject not immediately connected with the practice of medicine. The hint may be useful to some of our readers. Further reflection has led us to consider that the science of chemistry is too extensive in its application, and too rapid in its progress at the present period, to permit a sufficient account of it to be comprised in a Journal properly devoted to medical knowledge: we have, therefore, determined to treat of it, in future, merely as it immediately refers to physiology and the practice of medicine.

There is, however, some difficulty in determining in what manner, and to what extent, chemistry is applicable to medicine. There have been physicians of eminent talents, in all parts of Europe, at various periods since the commencement of the fifteenth century, who have endeavoured to explain the phenomena of health and disease on principles deduced from that science, and to correct the latter by chemical agents alone; whilst others have excluded from medical reasonings all principles which are not founded on the ideas conveyed by the terms sensibility, excitability, and vital actions. A general account of the origin and progress of these opinions may not be devoid of interest and utility.

When science began to be cultivated in Europe in the middle ages, the attention of its votaries was chiefly directed to the investigation of the composition and qualities of natural bodies. The Arabians, who were at that period the only men who studied natural philosophy in this part of the world, had long cultivated chemistry; and many chemical remedies were employed by the physicians of that nation: but it appears from the works of GEBER,* the most intelligent of the chemists of the school of Bagdat with whose writings we are acquainted, that their efforts were principally directed to the discovery of the philosopher's stone and the elixir of life. Such also were the views which directed the labours of ARNOLD of Villa-Nova, and his pupil RAYMOND LULLY of Majorca, who were the first Europeans that devoted themselves to the study of this science. It is easy to imagine how readily men who were

* There are several chemical tracts in the library of the British Museum which are attributed to Geber.

able to reduce the metallic oxides, and thus form brilliant metals from gross earths, would, in the early state of such a science, be led to suppose that the more precious metals might be formed by similar operations. The desire of fame might also induce them to impose on others a belief that they actually possessed this power. Thus, Arnald is said to have converted iron into gold, at Rome; and Lully to have effected a similar operation before Edward the First, in London. The alchemists of that period were chiefly the *Rosicrucians*, whose wild and vivid imaginations, heated by the fables of the East, in an age expressly calculated to favour their influence, led them to form the most extravagant notions respecting the nature of physical objects and the powers of the human mind. The idea of being able to discover a substance, (with the assistance of gnomes, sylphs, and other visionary spiritual beings, whom they supposed to govern the elements, and over whom they believed man might exercise dominion,) the use of which would render the human body insusceptible of disease and dissolution, was an effort of imagination but little beyond that which embraced the idea of the philosopher's stone. The more rational manner in which this science was studied, at a somewhat later period, by ROGER BACON of Oxford, and ALBERT of Cologne, had but little influence in checking the progress of those fascinating delusions. But little benefit was, therefore, derived from the study of chemistry beyond that described by Lord BACON, when he compared the alchemists to those husbandmen, who, in searching for a treasure supposed to be hidden in their land, by turning up and pulverising the soil, rendered it fertile,—until the early part of the fifteenth century, when several chemical medicines of utility were described by BASIL VALENTINE, the author of the celebrated *Triumphwagen der Antimonii*. Even CORNELIUS AGRIPPA professed magic, and endeavoured to combine alchemy with metaphysical philosophy. PARACELUS was the first who endeavoured to explain the nature of the composition of the human body and its functions, solely from chemical principles; and to deduce from this science specifics for all the varieties of disease. He was guided in these views by his hypothesis, that salt, metals, and sulphur, formed the elements of the human body; sol, or gold, he considered to predominate in the heart; luna, or silver, in the brain; mercury, in the lungs; saturn, or lead, in the spleen; and that the alkaëst, or universal solvent, reigned in the liver. All these agents were supposed to be under the dominion of an *Archeus*, which resided in the stomach, and performed the part of an alchemist. The notion he held respecting the manner in which

calculous concretions are formed in the urinary passages is, however, by no means contemptible: he compared it to the deposition of tartar from wine. Several physicians rose up to vindicate the doctrines of Hippocrates and Galen, and to banish from practice the use of the remedies derived from the new science; the principal of whom were ERASTUS, DE VINCENCIUS, LINACRE, and ZWINGER;* but, influenced either by the extraordinary and beneficial effects of chemical remedies in some desperate cases, or by the force of popular opinion, they at length were themselves disposed to have recourse to their use.

A new sect now appeared, whose doctrines were a combination of the mysteries of the cabalistic art with the principles of alchemy; amongst whom the most eminent were DIGBY, KELLY, and DEE, in England; and DU CHESNE,† CASTELLUS,‡ MAYERNE, OSWALD CROLLIUS, MYNSICHT,§ and SCHROEDER,|| on the continent of Europe.

Several physicians of considerable talents were disposed to accommodate the use of chemical remedies with the doctrines of the ancients; the principal of whom were Angelus SALA,¶ of whom it was said, *Primus chemicorum desuit ineptire*; SENNERTUS,** TACHENIUS,†† HARTMANN,‡‡ who also delivered lectures on the application of chemistry to medicine; as did ROLFINCK at Jena, and RIVIERE at Montpellier. GUIBERT, GASSENDI, and KEPLER, contributed also much to the rescue of medicine from the dominion of alchemy. But the most powerful reformer of this class was Van HELMONT: instead of explaining all the vital phenomena on the principles of mineral chemistry, he sought for illustrations of them in the operations of the vegetable world. Thus, digestion and secretion were compared to fermentation, which, as well as the other operations of the human body, were governed by an *Archeus* situated in the stomach, to which qualities somewhat similar to those since assigned

* *Physiologia Medica*; Basil, 1610.

† *Pharmacopœia Dogmaticorum Restituta*; Paris, 1607.

‡ *Calchanton Dodecaperion*; Romæ, 1619.

§ *Thesaurus et Armamentarium Medico-chymicum*; Hamburg, 1631.

|| *Pharmacopœia Medico-physica*; Ulm, 1641.

¶ *Anatomia Antimonii, id est, dissectio tam dogmatica quam hermetica antimonii, usum, proprietates, et vires ejus declarans*; Lugd. Batav. 1617.

** *De Concensu ac Dissensu Chymicorum cum Galeno et Aris- totele*; in *Opera omn.* Lugdun. 1650.

†† *Hippocrates Chymicus*; Venetæ, 1666.

‡‡ *Praxis Chymiatrica*; Francofurti, 1690.

to another imaginary existence—the *vital principle*, or to the *vis medicatrix naturæ* of STAHL, were attributed. The older chemical doctrines, however, continued to prevail, in spite of the powerful and well-directed genius of Van Helmont, and the severe and pointed satire of GUY-PATIN.

The atomic theory of DES CARTES* produced a new modification of the chemical hypothesis. The philosophers of his school considered that the variety in the qualities of the different secretions depended on the peculiar conformation of the pores of the glands through which they passed; which pores permitted only those atoms to escape that corresponded in form and volume to their areas. Acids were particles that were adapted for penetrating into the vacuities of alkalies, &c. This turned the attention of physicians to mathematical and mechanical reasoning; and gave rise to notions respecting the functions of animal bodies but little less absurd than those of the Rosicrucians. Even BOYLE, although an opposer of zoëtic chemistry, paid a tribute to the delusion of the age, in his reflections on the nature of specifics, and the influence of amulets on the human body, by means of their attraction of certain morbid particles.†

It was SYLVÍUS de le BŒE who carried the application of chemistry to its fullest extent.‡ The human body, with him, was a chemical apparatus, where the heart is excited to action by the fermentation of the blood: from the aliments digested in the stomach there arise vapours distilled in the brain, which sends spirits to all the other organs of the body. Diseases depend on fermentations which corrupt the humours, producing either an acid or alkaline state of them. From the fluids in a state of effervescence, precipitations, dissolutions, and despumations, take place, similar to those in a barrel of wine. The physician's efforts are to be directed to lessen the violence of the fermentation by sedatives, or to excite it, when too languid, by stimulants; to precipitate feculencies by various remedies, of which the algaroth powder was the most efficacious; to neutralise acids by absorbents and alkalies; to destroy the corrosive quality of the lymph in syphilis; to dissipate the cold acid vapours of the pancreatic fluid in hypochondriasis, &c.

This hypothesis was received with almost universal approbation on the continent of Europe: it was patronized by

* *De Homine*; Latine edit. DONATUS, Lugd. Batav. 1664, p. 65 et seq.

† *Chemista Scepticus*; Londini, 1661.

‡ *Opera Omnia, Methodus Medendi*; Amstelodamiæ, 1679.

PASCAL,* ETMULLER, LENTILIUS, FRANCIS BAYLE,† MINOT,‡ VOLPI,§ VIEUSSENS,||. HELVETIUS,¶ and even by RAMAZZINI. It was also adopted in England with some modifications. CHARLETON admitted the doctrine of fermentation of Van Helmont; MAYOW supposed that the inflammable particles of the air insinuated themselves into the blood, and produced a sort of vital inflammation with the sulphurous elements of that fluid; CROONE imagined that muscular motion arose from effervescence of the animal spirits with the sulphurous particles of the blood; ** WILLIS framed a physiological hypothesis on the influence of the igneous vital spirits, of which there was a continual distillation going on in the brain; the blood he considered to ferment like wine, and that in fevers this was of a sulphurous nature; spasms arose from an explosion of salt and sulphur in the animal spirits; gout from a coagulation of the blood; and scurvy from a state of the blood similar to faded, musty wine; and that all the secretions were particular distillations.†† HARRIS,‡‡ FLOYER, LISTER,§§ and DUNCAN,||| admitted either an acid or alkaline state of the humours as the cause of most diseases. The same notions influenced the reasonings of SYDENHAM.

The knowledge of the circulation of the blood, the doctrines of Des Cartes, and the philosophical experiments of GALILEO and BORELLI, produced at length a more extensive influence on medical reasonings; every phenomena was to be explained on mathematical principles: of this, the Treatise of MEAD on the bite of the Tarantula spider will afford a sufficient specimen. KEIL and JURIN were amongst its most strenuous supporters. This hypothesis, somewhat modified, formed the basis of the systems of BOERHAAVE and HOFFMANN. The influence of chemistry now rapidly declined over the whole of Europe; and, when the doctrines of George Ernest STAHL¶¶ became generally promulgated,

* *Traité des Fermens*; Paris, 1681.

† *De Corpore Animato*; Tolosæ, 1700.

‡ *De la Nature et Cause des Fièvres*; Paris, 1710.

§ *Spasmalogia*; Asti, 1710.

|| *De Remotis et Proximis Mixti Principiis*; Lugdun. 1715.

¶ *Mémoires de l'Académie des Sciences*; An. 1716.

** *De Ratione Motus Musculorum*; Londini, 1664.

†† *De Fermentatione, et de Febribus*; 1668.

‡‡ *De Morbis Infantum*; 1689.

§§ *De Humoribus*.

||| *Chymicæ Naturalis Specimen*; 1707.

¶¶ *Theoria Medica Vera*; Halle, 1708.

and almost universally adopted, this branch of science no longer shared the studies of the generality of physicians.

The philosophical opinions prevalent at that period, which would not admit the existence of intrinsic active force in matter, but attributed all its actions to the influence of an intelligent principle of an immaterial nature; joined with the doctrine of Des Cartes, adopted and extended by MALEBRANCHE, and the physiological hypothesis of Van Helmont, appear to have given rise to this important and remarkable revolution in the doctrines of the medical art.

The discoveries made in chemistry in the latter part of the last century, causing almost an entire change in the received principles of that science, and the greater facility with which analytical enquiries were conducted, led philosophers to examine anew the greater number of natural products with a degree of accuracy that had previously been unknown; an accuracy, in a great measure, dependent on the introduction of the use of re-agents in chemical experiments. Physiology soon shared these advantages: the labours of FOURCROY were the commencement of a rational and really useful application of chemistry to physiology and the practice of medicine; and, notwithstanding the important discoveries that have since been made by the numerous eminent philosophers who have devoted a share of their attention to this part of chemical science, his works on those subjects may yet be studied with advantage. Here we must terminate our observations. To trace the development of the progress of animal chemistry from that to the present period, and to investigate the extent of its utility, would demand the space of a large volume; besides which, we should despair of being able to add any thing of importance to the reflections adduced by BERZELIUS on this part of the subject, in his work expressly devoted to it.

To investigate the nature, and trace the different stages of the process by which alimentary substances, being received into the digestive organs, acquire the peculiar mode of combination and possess the properties evinced in the blood, is doubtless one of the most interesting and rational applications of chemistry to physiology: it has consequently engaged particular attention, both from philosophers particularly devoted to the study of that branch of science, and from those especially denominated *practical* physicians. Notwithstanding the many experiments and the reasonings that have been employed on this subject, both in a chemical and a general physiological point of view, we have yet much to learn respecting it. Our readers will, therefore, peruse with much gratification the account we are about to

relate of some experiments of Dr. PROUT; the excellence of whose qualifications for its investigation they must have long since learned to appreciate. It is deduced from a Memoir published in the thirteenth volume of the *Annals of Philosophy*.

"Perhaps," observes Dr. Prout, "it may facilitate the perusal of these pages to premise, in general terms, the opinions which my observations have led me to form respecting the development and nature of the blood; the arrangement of the subject being chiefly founded upon that opinion. My notion is, then, that the blood begins to be formed or developed from the food, in all its parts, from the first moment of its entrance into the duodenum, or even, perhaps, from the first moment of digestion; and that it gradually becomes more and more perfect as it passes through the different stages to which it is subjected, till its formation be completed in the sanguiferous tubes, when it presents an aqueous solution of the principal textures and other parts of the animal body to which it belongs.

"The chief ingredients in the blood are *albumen*, *fibrin*, and the *colouring principle*, which may be supposed to represent the *common cellular texture*, the *muscular texture*, and the *nervous texture*,* respectively. These different principles are so nearly allied to one another in their chemical properties, that Berzelius has given them the general name of albuminous contents of the blood; a term which, for the sake of convenience, we shall adopt in the following enquiry.

"The principal distinct stages in the formation of blood, in all the more perfect animals, are *digestion*, *chymification*, *chylification*, and *sanguification*, usually so called: the first process being confined to the stomach, the second to the duodenum, the third to the lacteals, and the fourth to the blood-vessels.

"The properties of *chyme*,† *chyle*, and *blood*, the result

* "I by no means wish to be understood to assert that the red particles of the blood are destined to form the cerebral and nervous substances of animal bodies. I believe, however, that they are more intimately connected with the nervous function than any other ingredient of the blood, as I shall attempt to show hereafter.

† "I use the term *chyme* in a sense somewhat different from that commonly employed, by limiting it to that portion of the alimentary matter found in the duodenum, which has already, or is about to become albumen, and thus to constitute a part of the future blood.

of these processes, appear to run gradually and imperceptibly into one another; and hence, perhaps, they can hardly be considered as distinct and well-defined steps in the general process of sanguification. As, however, the vessels or organs in which they take place are perfectly distinct, it becomes a matter of convenience to consider the processes themselves as distinct also."

Dr. Prout first notices the phenomena, &c. of digestion in a rabbit, which had been kept without food for twelve hours, and was then fed upon a mixture of bran and oats. Two hours afterwards it was killed:—the stomach was moderately distended with a pulpy mass; the different articles of which it was composed could be barely recognized. The digestive process did not appear to have taken place equally throughout the mass, but seemed to be confined principally to where it was in contact with the stomach. Its smell was fatuous and disagreeable. On being wrapped up in a piece of linen, and subjected to moderate pressure, it yielded upwards of half a fluid ounce of an opaque reddish-brown fluid, which reddened litmus paper; but, on being dried or exposed to the air, the blue colour returned. The next day, however, the paper had assumed a red colour, which was permanent. It coagulated milk; and, moreover, seemed to possess the property of re-dissolving the curd, and converting it into a fluid, very similar to itself in appearance. It was not coagulated by heat or acids; and, in short, did not exhibit any evidence of an albuminous principle. On being evaporated to dryness, and burned, it yielded very copious traces of an alkaline phosphate and sulphate; also of various earthy salts,—as the sulphate, phosphate, and carbonate, of lime. The duodenum of the animal, at its commencement, contained chiefly a greenish-yellow glairy fluid, full of air-bubbles, with a small portion only of the insoluble parts of the food. This yielded decided evidence of the existence of a true chymous or albuminous principle: the quantity of which was found to increase to the distance of about six inches from the pylorus, after which it diminished; and at the distance of twenty-four inches from the pylorus, it was barely perceptible. When the animal was opened at a longer period after feeding, much stronger evidences of albuminous matter were found, not only in the duodenum, but nearly throughout the whole of the small intestines. The quantity, however, was generally very minute in the ileum; and where it enters the cœcum, no traces of this principle were discovered. A similar experiment was made on animals of different species; but the results did not present any other phenomena sufficiently interesting to merit being detailed in this place.

Dr. Prout next treats of the general and chemical properties of *chyme*. This fluid varied somewhat as it was formed either from vegetable or animal food. That from vegetable food (principally bread), found in the duodenum of a dog, was composed of a semi-fluid, opaque, yellowish-white part, containing another portion of a similar colour, but firmer consistence, mixed with it. Its specific gravity was 1.056. It showed no traces of a free acid, nor alkali; but coagulated milk completely, when assisted by a gentle heat. It was found to consist in proportions of 86.5 parts of water; 6.0 of what Dr. Prout terms the *gastric principle*, united with the alimentary matters, and apparently constituting the chyme, mixed with excrementitious matter; 1.6 of biliary principle; 5.0 of vegetable gluten; 0.7 of saline matters; and 0.2 of insoluble residuum. That from the duodenum of a dog fed on animal food was more thick and viscid than that from vegetable food, and its colour was more inclining to red. Its specific gravity was 1.022. It showed no traces of a free acid or alkali; nor did it coagulate milk, even when assisted by the most favourable circumstances. It consisted of 80.0 parts of water; 15.8 of gastric principle; 1.3 of albuminous matter, partly consisting of fibrin; 1.7 biliary principle; 0.7 saline matter; 0.5 insoluble residuum.

The properties of *chyle* are next considered, in the three different stages of its progress towards the sanguiferous system. Owing to the minuteness of the lacteal vessels, its qualities in the first stage are but imperfectly known. In the examination of it made in the horse, by EMMERT and REUSS, it was found to be opaque, and white like milk; differing from chyle taken from the thoracic duct, in being more white and opaque, in undergoing spontaneous coagulation much more slowly and imperfectly, and in not assuming a reddish colour on exposure to the air. Chyle from the sublumbar branches of horses, examined by the before-mentioned physiologists, and also by VAUQUELIN, is represented as possessing properties more imperfect and ill-defined than those of chyle taken from the thoracic duct: it was found to undergo spontaneous coagulation much more imperfectly. Its colour was white, with minute yellow globules swimming in it. But, in a few hours, there was observed in it a little reddish mass swimming in a yellowish fluid, which after some days disappeared, and assumed the form of a sediment at the bottom of a vessel. Chyle taken from the thoracic duct of an animal killed a few hours after having taken food, is in a perfectly fluid state; its colour is nearly white; its taste faintly saline and sweetish. In a

period of time somewhat different in different instances, but generally in a few minutes, it begins to assume a gelatinous appearance, and to undergo coagulation; the colour also, if it have been exposed to the air, changes to a faint red, or pink. These observations are taken from Emmert, Reuss, and Vauquelin. The descriptions of this fluid by Dr. Marcet and Dr. Prout do not materially differ from the above. On chemical analysis, Dr. Prout found the chyle taken from the thoracic duct of a dog fed on vegetable food, to consist of 93.6 parts of water; 0.6 fibrin; 4.6 incipient albumen?; 0.4 albumen, with a little red colouring matter; 0.8 saline matter, and some traces of sugar of milk? and of oily matter. The respective proportions in a dog fed on animal food were—89.2; 0.8; 4.7; 4.6; and 0.7. The saline matters consisted chiefly of the alkaline muriates, with traces of a sulphate, and perhaps of a lactate: but of this the author is not certain. Here the Memoir of Dr. Prout terminates: we, therefore, defer the remarks we may have to offer respecting it, until we are enabled to lay before our readers the full development of the views and opinions of this learned and intelligent physician, to whom we are already indebted for so much valuable information relative to this branch of science.

Although the experiments and observations of Dr. Wilson Philip on digestion were published in the first edition of his physiological work, and consequently should not be included in an history extending backwards only to the period within which we profess to confine our views, yet, as they have never been detailed in this Journal, and will form an highly-valuable addition to the observations of Dr. Prout, we shall adduce them on the present occasion. Many of them are strictly physiological, in the ordinary application of that term; but, as several of them especially appertain to animal chemistry, and they are so indivisibly connected, we trust that we shall not be censured for noticing them under the head of Chemistry.

“The first thing which strikes the eye on inspecting the stomachs of rabbits which have lately eaten,” observes Dr. Philip, “is, that the new is never mixed with the old food. The former is always found in the centre, surrounded on all sides by the old food, except that on the upper part, between the new food and the smaller curvature of the stomach, there is sometimes little or no old food. If, as we ascertained by more than twenty trials, the old and the new food are of different kinds, and the animal is killed after taking the latter (unless a great length of time was elapsed after taking

it), the line of separation is perfectly evident, so that all the old may be removed without disturbing the new food."—"All around, the nearer the food lies to the surface of the stomach, the more it is digested. This is true even with regard to the food in the small curvature, compared with that nearer the centre; and the food which touches the surface of the stomach is more digested than any other found in the same part of the stomach. But, unless the animal has not eaten for a great length of time, the food in contact with the surface of the stomach is in very different stages of digestion in different parts of this organ. It is least digested in the small curvature, more in the large end, and still more in the middle of the great curvature.

"These observations apply to the cardiac portion of the stomach. Sir EVERARD HOME, in his work on Comparative Anatomy, has shown that the stomach is divided into two portions, the cardiac and pyloric, in such a way, that the length of the former is to that of the latter nearly as two to one. The line of division may generally be seen in some animals after death." Such an appearance was observed by Dr. Philip; and he continues to observe, "that these two portions form an angle with each other, which is well expressed by the plates in Sir Everard Home's work. The food in the pyloric portion of the stomach of the rabbit, is always found in a state very different from that just described. It is more equally digested; the central parts differing less in this respect from those which lie next to the surface of the stomach: it is evident, however, that all the change effected in the stomach is not completed when the food enters this portion of it, because we find it the more digested the nearer it approaches to the pylorus."—"One of the most remarkable differences between the state of the food in the cardiac and pyloric portions of the stomach, is, that in the latter it is comparatively dry; in the former, mixed with a large proportion of fluid, particularly when digestion is pretty far advanced, and time has consequently been given for a considerable secretion from the stomach.

"It appears that, in proportion as the food is digested, it is moved along the great curvature, where the change in it is rendered more perfect, to the pyloric portion. Thus, the layer of food lying next the surface of the stomach is first digested. In proportion as this undergoes the proper change, it is moved on by the muscular action of the stomach; and that next in turn succeeds to undergo the same change. As the gastric juice pervades the contents of the stomach, though apparently in no other way than by simple

juxtaposition; the change in each part, which in its turn comes in contact with the stomach, is far advanced before it is in actual contact with it, and, consequently, is soon after this in a proper state to be moved on towards the pyloric end. Thus a continual motion is going on,—that part of the food which lies next the surface of the stomach passing towards the pylorus, and the more central parts approaching the surface.

“It is in the great end of the stomach where digestion goes on so rapidly, that Mr. Hunter found the stomach itself dissolved; and, by the most satisfactory arguments, showed that this is the effect of the gastric juice after death.”*

These observations of Dr. Philip are highly valuable; for, at the same time that they add to the evidence we previously possessed of the agency of the gastric fluid in digestion, they show that that process is not solely dependent on chemical agency, but that it is effected by means of the more general laws that influence the functions of the animal economy: in other words, that experiments with the gastric fluid out of the body, will afford but little information on this subject; and that the stomach is not merely a vessel in which the chemical changes in the aliment are affected, but also a *vital organ* performing an active and important office in that process. But we need not dwell further on this part of the subject on the present occasion, having noticed it in a particular manner in our analysis of the thesis of Dr. LALLEMAND.†

Calculus concretions in the urinary organs is one of the subjects to which chemistry has been applied with the most decisive beneficial influence on the practice of medicine. Indeed, the therapeutics for the maladies thence arising are founded on the principles of that branch of science: although it is obvious that we have hitherto only applied them to remedy the effects of a primary disease; for these concretions themselves appear to arise, in most instances, from either general or topical derangement of the animal economy, the consideration of which has, perhaps, been too much neglected since the means of remedying its ill effects have been more precisely ascertained.

* *An Experimental Enquiry into the Laws of the Vital Functions, &c. &c.*; by A. P. Wilson Philip, M.D. F.R.S.E. &c. Second edition, p. 140 et seq. London, 1818.

† *London Medical and Physical Journal*, vol. xl. p. 531 et seq.

110 *Recent Progress of Physiological and Medical Chemistry.*

The work of Dr. MAGENDIE* on this subject is of considerable value, although it bears marks of hasty composition, and want of logical precision in the deduction of general conclusions from the facts to which it relates.

The observations of Dr. Magendie in this work relate to those concretions alone which appear in the form of gravel, and which are composed of *uric acid*, combined with a small proportion of animal matter. The chemical composition of this acid is found to be in the proportions of 39.16 azote; 33.61 carbon; 18.89 oxygen; and 8.34 hydrogen. Azote, then, constitutes one of the chief of its elements. This induced the author to examine the urine of herbivorous and carnivorous animals, with the view to ascertain the influence of aliments in the production of uric acid. He found that the urine of the former class always contains it, whilst that of the latter is perfectly free from its presence. This led to some enquiries, in order to determine whether the use of vegetable food alone, in carnivorous animals, would prevent the formation of the acid; and, from some experiments made on dogs by feeding them with sugar, he is disposed to decide this question in the affirmative: the propriety of which conclusion is very doubtful, when the diseased state produced by this diet, in the animal whose case is detailed, is considered; particularly, too, when we find that BERZELIUS, in his work on Animal Chemistry,† states that the blood of herbivorous animals contains a greater proportion of azote than that of man. M. Magendie observes, that the azote contained in the food is principally expended on the muscles, and that it is when these parts are not sufficiently exercised, or that azoted food is taken in larger quantities than is necessary for their nutrition, that it appears in an inordinate proportion in the urine, and in the form of uric acid. The habits of brute herbivorous animals may, therefore, according to the statements and principles of that physiologist, be adduced to explain why azote does not appear in their urine in the form of uric acid; but an inference cannot thence be derived to show that the use of vegetable food in animals naturally carnivorous should in them prevent the production of that

* *Recherches Physiologiques et Medicales sur les Causes, les Symptomes, et le Traitement de la Gravelle*; par F. Magendie, M.D. &c. Paris, 1818.—See *London Medical and Physical Journal*, vol. xl. p. 338 et seq.

+ *A View of the Progress and present State of Animal Chemistry*; by J. Jacob Berzelius; translated from the Swedish, London, 1813.

substance. If the blood of herbivorous animals contain a greater proportion of azote than that of man, and their muscles and other parts are equally formed in part of that principle, there must be some outlet for the evacuation of this matter from the body, when separated from its organs in the process of mutation, (which would appear to be through the medium of the kidneys.) Admitting that the statements of M. Magendie are correct, it would then appear that the presence of uric acid in the urine of one class of animals; and the absence of it in another, whose solid parts contain it in an equal proportion, and whose blood contains more,—can only be explained by attributing these circumstances to a precise and absolute difference in the functions of particular organs in those animals: unless we admit a passage from the stomach or intestines to the kidneys, distinct from that of the general circulation; and that the quantity of azote taken with the aliment which is greater than what is necessary for the support of the body, is immediately carried off by means of that communication. The former of these propositions has not been satisfactorily established; and, to admit the latter, would be to attribute an elective function to those parts that is merely imaginary.

Another question then arises—Will animals, accustomed to take a large quantity of azote as food, preserve their health by the use of a diet containing only a very small proportion of that substance, or, as M. Magendie proposes in some cases, to the absolute want of it? The facts adduced by him to show the correctness of his principles, and the good effects of the mode of treatment he deduces from them, would authorize a conclusion in the negative; as far as such a number of facts can with propriety be applied. The dog died apparently in consequence of the diet to which he was confined; and the general health of the patients who continued the use of aliments containing but a small proportion of azote, beyond a certain length of time, became considerably deteriorated. We should have before observed, that uric acid requiring about fifteen hundred times its weight of urine for its solution, when it exists in that fluid in a greater proportion, it necessarily becomes precipitated in a solid form: this constitutes the concretions termed gravel.

With respect to the patients to whom we have just alluded; the existence of gravel in the urine, to which they had previously been subject, disappeared under the use of the non-azoted diet; but we should be disposed, for the reasons we have already mentioned, to attribute this to physiological, not to chemical, causes. They were persons who had indulged to a great extent in a luxurious diet; and, in

addition to this, some of them had led an indolent life; and, therefore, the measures which would remedy these causes of derangement of the general animal economy, would also probably obviate the production of gravel as one of their effects.

The above remarks are offered with much diffidence, and principally with the intention of preventing the undue influence which a specious hypothesis might have on some of our readers; by furnishing them with some hints for reflection, which will show them that it should be admitted with extreme caution.

An Account of the Progress of Knowledge respecting Materia Medica, from June 1818 to January 1819.

“Non enim quidlibet ægris inculcasse; sed cogitasse quid maxime conveniret, et id usu explorasse, quod antè conjectura aliqua dicissent.”—CELSUS, lib. i.

PREVIOUSLY to a detail of the subjects we have to treat of in a particular manner, it may be proper to notice in general terms the various systematic works that have recently appeared on materia medica; of which, the most important is the *Paris Pharmacopœia*.* Of this we must speak in terms of warm approbation. The general arrangement of the matter is perspicuous and judicious; the language concise and accurate; and the whole highly creditable to M. HALLE, who superintended the composition.

One of the principles which influenced the labours of the authors is particularly deserving of praise, which they express by observing—“Perspicere præstantius certè est, quam despiciere:” this relates to those formula which have been long established, and kept prepared by apothecaries, with the properties of which the public suppose themselves to be acquainted, and, consequently, are in the habit of employing without having recourse to professional advice.

Professor SALVA has published an account of the materia medica employed by him in his practice at the Royal Medical School at Barcelona;† which we notice because of the judicious manner in which he has arranged and described the matters of which it treats.

The history of each medicine is divided into six para-

* *Codex Medicamentarius, sive Pharmacopœia Gallica*; editus a Facultate Medica Parisiensi, anno 1818. 4to. pp. 393; apud Hacquart.

† *Tercer año Medico-Clinico de la real Escuela de Medicina Practica de Barcelona*, 4to. 1818.

graphs: the first indicates the name given to the substance by Linnæus, and the work in which it has been treated of by that naturalist; the second describes its physical properties; the third, its chemical qualities; the fourth, its most evident and general medicinal properties; the fifth treats of its curative property, which is the necessary result of the action of the preceding one: this last paragraph has often been left blank, in consequence of the obscurity in which the consecutive effects of medicine are still enveloped. The same reason induced him to arrange them alphabetically, rather than by any systematical classification. The sixth paragraph indicates the mode of using the remedy. Neither in the number of the medicinal substances employed, nor in the composition of the formula which he has described, can Prof. Salva be said to be subject to the censure for too great multiplicity and complexity, which has been passed on many productions of this kind: on the contrary, we find many remedies which we consider as highly useful for their variety, and essentially necessary for their properties, not employed by him; such as arsenic, belladonna, colocynth, digitalis, gentian, scammony, &c.

An amplified and corrected edition of the *system of Materia* of SCHWILGUE, by the late M. NYSTEN, has also recently appeared. The merit of this work is so well known and generally acknowledged, that any observations on our part are unnecessary.

A new and improved edition of the excellent pharmacæutic work of Dr. CADET DE GASSICOURT, with notes by Dr. PARISET, has also been lately produced.

The physicians of the United States are very actively engaged in the investigation of the medicinal qualities of the plants produced on that part of the globe; several of which are indigenous to it, and highly estimable in the practice of medicine. The most important works on this subject now in the course of publication are those of Dr. BARTON* and Dr. BIGELOW:† that of the latter is particularly valuable

* *Vegetable Materia Medica of the United States, or Medical Botany*, &c.; by W. P. C. Barton, M.D. Professor of Botany in the University of Pennsylvania, &c. &c. Carey and Son, Philadelphia; and Souter, London, 1818.

† *American Medical Botany*; being a Collection of the native Medicinal Plants of the United States, containing their botanical History, chemical Analysis, and properties and uses in Medicine, &c.; by Jacob Bigelow, M.D. Rumford Professor and Lecturer on Materia Medica and Botany in Harvard University. Cummings and Hilliard, Boston; and Souter, London, 1818.

from the great erudition of the author, and his extensive research respecting the observations that may have been made respecting the medical qualities of those plants already generally known, and from the accuracy with which the chemical analysis of them has been conducted. The work of Dr. Barton merits the highest praise for the accuracy of the botanical history, and the manner in which the representations of the plants are executed. We need not notice these works more at length on the present occasion, having already inserted in our Journal some extracts from them, which we shall repeat from time to time, respecting such plants as are known, or appear to be worthy of being brought into use, in Europe.

A new edition of the Dispensatory of Mr. THOMSON has also lately appeared,* which embraces every thing of most importance relative to pharmacy, &c. up to the period of its publication.

We have also to notice a work on the same subject,† by Mr. GRAY. This is chiefly adapted for the use of the chemists of the present period, who have become what apothecaries were formerly.

As the mode of action of numerous materia medica is obscure, and of many of them altogether unknown,—and also from several of them producing various effects when employed under different circumstances,—we shall consider those of which we have to treat in alphabetical order, rather than according to any systematic arrangement founded on their supposed properties.

ANTIMONIUM TARTARIZATUM has been introduced to the notice of physicians by Dr. BALFOUR, as a medicine possessed of properties not generally attributed to it. The author, in his treatise on this subject,‡ observes, that it has been ordinarily employed only in *nauseating* doses, with a view to produce general relaxation and perspiration with-

* *The London Dispensatory*; containing the Elements of Pharmacy, the Botanical Description, Natural History, Chemical Analysis, and Medical Properties, of the Substances of the Materia Medica, &c.; by A. T. Thompson. 8vo.

† *A Supplement to the Pharmacopœias*; including not only the Drugs and Compounds which are used by professional or private Practitioners of Medicine, but also those which are sold by Chemists and Herbalists, and for other Purposes; by L. F. Gray. 8vo.

‡ *Observations, with Cases, illustrative of the sedative and febrifuge Powers of Emetic Tartar*. By W. Balfour, M.D. See *London Medical and Physical Journal*, vol. xl. p. 410.

out heating the system; but that its sedative powers, independent of these obvious effects, were not known to the physicians whom he consulted respecting the intentions with which they had employed this remedy. Dr. Balfour has adduced the most ample testimony of its powerful sedative effects, and, consequently, of its great utility in all cases where it is desirable to lessen the action of the animal economy: such testimony as, we hope, will render the use of that medicine for these purposes more generally known.

ARSENICUM. The superior efficacy of this to all other known remedies in many cases of intermittent fever, is beginning to be as well ascertained on the continent as it has been for many years in England. Amongst various reports in its favour, we may particularly notice that of M. Gasc, which is deduced from observations made during his official attendance on the hospitals at Dantzick. "The number of patients with fever was so great in the hospital," says that physician, "and the disease had been so rebellious to the ordinary modes of treatment, that I determined to have recourse to the use of arsenic.* I first administered it to some patients affected with quartan fever, selecting those cases which were not complicated with other diseases, and in which the intermission was well marked. My first trials of it were so satisfactory, and the successful results so numerous, that I did not hesitate to extend the use of it to almost all the cases of fever of that species in the hospital, without regard to particular complications of disease, provided they were not of a nature to contra-indicate it in a positive manner. Of seventy-four patients to whom it was given,—sixty-three had quartan, six tertian, and five quotidian or anomalous, fever: forty left the hospital cured within a month; half of the remainder were free from fever at that period; and the others were still under treatment, which had been suspended for various reasons."

COLCHICUM autumnale. The efficacy of this medicine for the relief of gout and rheumatism, and the safety with which it may in general be administered under judicious management,† are now generally known in Europe; and it has been commonly employed in the United States for some time with the same intentions. The diuretic and cathartic property of this medicine led Dr. CLARKE, of Philadelphia, to suppose that it would be well adapted for many cases of dropsy; and he has employed it in one case with success.—

* The preparation he employed was similar to the *Liquor Arsenicalis* of the London Pharmacopœia.

† For some useful observations on this subject, see *London Medical and Physical Journal*, vol. xl. p. 396.

"A black woman, aged 32 years, had ascites and anasarca of the lower extremities. I gave her two hundred drops of the tinc. colchici in the morning, which produced a very copious discharge of urine and watery fæces. The use of the medicine was continued for nine days, in which time the dropsical swelling had completely disappeared, and nothing was then left for me but to prescribe a little tonic medicine. In the space of nineteen days, I had the satisfaction of seeing her restored to her usual state of health."*

GALVANISM. We shall quote the remarks of Dr. WILSON PHILIP on the use of this agent as a remedy for disease.

"The experiments related in the preceding enquiry† seem to point out, more precisely than former observations have done, what we are to expect from the use of galvanism in the cure of disease; and I think it will appear from what I am about to say, that, to the want of discrimination in its employment, we must ascribe the little advantage which medicine has hitherto derived from the discovery of this influence.

"It is an inference I have already had occasion to observe, from my own experiments and observations, as well as those of others, particularly of M. le Gallois, that what is called the nervous system comprehends two distinct systems, —the sensorial, and the nervous system properly so called. Now it does not appear, from the foregoing enquiry, that galvanism can perform any of the functions of the sensorial system; yet, in the greater number of instances in which it has been used in medicine, it has been expected to restore the sensorial power: it has been expected to restore hearing, and sight, and voluntary power. It may now and then happen in favourable cases, from the connexion which subsists between the sensorial and nervous systems, that, by rousing the energy of the latter, we may excite the former. It would be easy to show, that we have little reason to expect that this will often happen. We have also reason to believe that galvanism has no other power over the muscular system than that of a stimulus; we are, therefore, to expect little more advantage from it, in diseases depending chiefly on faults of the sanguiferous system, than from other stimuli, &c. But I cannot help regarding it as almost ascertained, that in those diseases in which the derangement is in the nervous power alone, where the sensorial functions are entire, and the vessels healthy, and merely the power of

* *American Medical Recorder*, vol. i. p. 377.

† *An Experimental Enquiry into the Laws of the Vital Functions, &c.*; by A. P. Wilson Philip, M.D. F.R.S.E. &c. Second edition. London, 1818.

secretion, which seems immediately to depend on the nervous system, is in fault, galvanism will often prove a valuable means of relief."

Habitual asthma, unaccompanied with evident inflammation, was the species of disease in which it was employed with most benefit. Many of the patients were working people of the city where Dr. Philip resides, who had been obliged to abandon their usual occupation in consequence of it; and some of them, from its long continuance, without any hope of returning to regular work. Most of them had tried the usual means in vain. By the use of galvanism, they were relieved in different degrees, but all sufficiently to be restored to their employments. Several of them, whom Dr. Philip saw lately, said they had continued to work without any inconvenience, although they had not used galvanism for many months. Some, in whom the disease had been wholly removed, remained quite free from it; some have had a return of it, and have derived the same advantage from galvanism as at first. It was applied in the following manner:—

Two thin plates of metal, about two or three inches in diameter, dipped in water, were applied, one to the nape of the neck, the other to the pit of the stomach, or rather lower. The wires from the different ends of the trough were brought into contact with these plates, and as great a galvanic power maintained as the patient could bear without complaint. The operation was discontinued as soon as the patient said that his breathing was easy, which generally happened in from five minutes to a quarter of an hour. It was seldom used more than once a-day; but, in some of the more severe cases, it was applied morning and evening. It failed to give considerable relief only in about one-tenth of the cases to which it was applied.

In order to apply this powerful agent with sufficient precision, and with a confident expectation of beneficial results, not only a correct knowledge of the nature of the individual disease, but accurate anatomical and general physiological information, is requisite; particularly as regards the nervous system. It is also necessary that the medical practitioner be well acquainted with the nature of that agent, its mode of influence, and the various ways of producing and regulating it according to accidental circumstances. There is no work from which this knowledge can be so fully obtained, and with so much facility, as from the treatise of Dr. Bostock on this subject.*

* *An Account of the History and present State of Galvanism*; by John Bostock, M.D. F.R.S. &c. pp. 158. London, 1818.

HELLEBORUS, *albus et niger*. A Memoir, relating an account of some experiments made with these plants by M. SCHABEL of Weissenbourg, was read, in September last, to the Medical Society of Emulation of Paris. Although nothing of great importance is adduced, yet we consider every thing relative to this subject too interesting to be passed over without notice. We shall not detail the experiments of M. Schabel, but merely the conclusions he has deduced from them.

The lethiferous properties of those plants very much resemble each other.

These properties appear to reside principally in the resinous parts, and are not neutralized by the tincture of nut-galls, as many physicians have asserted. The emetic properties attributed to the resinous, and the narcotic to the gummy, parts of these roots, has not been confirmed by experience.

The influence of these poisons is not only injurious to animals, but also to vegetables.

The effects they produce on the higher classes of animals are determined by the same circumstances on which those of the poisonous bitters, arsenic, and prussic acid, depend.

Their action is most marked when they are introduced into the blood-vessels, or applied on the serous membranes, or on organs well furnished with blood-vessels. Their influence is exerted through the medium of the circulation.

Their effects are—slow, difficult respiration; slowness, and sometimes irregularity, of the pulse; vomiting of mucous and bilious matter; increased secretion of saliva; vacillation; vertigo; convulsions, followed by tetanus; and diminution of heat. At length the animal becomes cold, respire after long intervals, exhibiting hardly any signs of life, which is lost by degrees.

In those animals who have not been killed immediately by this poison, the lungs are found heavy, gorged with blood, either generally or partially of a brownish colour, and covered with a dense membrane. The gall-bladder is filled with bile, a large quantity of which is found in the superior part of the intestinal canal, and the mucous membrane of this cavity often shows signs of inflammation. The liver is frequently distended with blood. A large quantity of black blood is found in the great venous trunks; and the right, and sometimes the left, cavities of the heart. The irritability of the muscles of both organic and animal life is still considerable, and the nerves possess the power of conveying impressions. The other organs do not evince any thing remarkable.

Black hellebore was much employed, two or three centu-

ries since, as an emenagogue, but it appears to be much neglected at the present time. Dr. MACLEAN, of Edinburgh, is disposed to think very favourably of its powers in that respect, and has published some observations tending to demonstrate them.*

HYDRARGYRUS. Dr. SALAMANCA, of the Royal Marine Hospital of Spain, has made public some observations on the use of the prussiate of mercury in the treatment of syphilis, and some diseases of the lymphatic system; apparently owing to the remarks of M. CHAUSSIER respecting the superiority of this preparation for those purposes. The cases related by Dr. Salamanca do not appear to us either to be sufficiently interesting to merit detail, or to prove what the author would indicate. The history of the cases is too concise to permit any satisfactory judgment to be formed respecting them; and we consider that the measures generally adopted by judicious practitioners would have been equally successful. This author, however, states that, besides syphilitic, many darts and psoric affections, which had withstood all the usual means, disappeared under the use of this remedy. The ordinary dose was a tea-spoonful of a solution formed of eight grains of the prussiate of mercury in eight ounces of water.

MOXA. We notice this subject principally from a desire to excite the attention of our readers to a remedy that it is much to be wished were introduced into practice in this country. The cases of hydrocephalus, in which it was employed by Dr. REGNAULT, related in the last volume of this Journal, are such testimonials in its favour as cannot fail to make a deep impression on the mind of every reflective medical practitioner; and, we should think, would effect what we have indicated.

NUX VOMICA. The accounts published by MM. FOUQUIER and HUSSON of their experiments with this remedy, have led to an extensive trial of its properties by other physicians; the results of which show it to be an highly valuable medicine, but which requires much caution in its application. Some cases, where it has been used by Drs. LESCURE and FINOT with the most evident benefit, will be detailed in another part of the present number of this Journal. We have chosen those to which we refer, from a series of successful instances of the application of this remedy, from their particularly pointing out its more immediate effects, and the ill consequences that may ensue from its use when not judiciously administered.

TODDALIA. Although the consumption of cinchona bark

* See *London Medical and Physical Journal*, vol. xl. p. 16.

at the present period is very small in proportion to what it was half a century since, yet, as MM. Humboldt, Bonpland, and other travellers, assert that it appears probable that the forests of Peru and the Andes will, before a century is passed, be exhausted of that valuable remedy, every substance apparently resembling it in its properties merits attentive consideration. Many physicians think that the bark of the willow, oak, horse-chesnut, &c. in our country, is no mean substitute for that of the *loxa* of Peru; but it is probable that it is to warmer climates we must look for the most efficacious remedies of this class. Dr. VIREY, in a Memoir in the *Journal de Pharmacie*, states, that M. Bosc has received from M. Hubert, a botanist of the Isle of Bourbon, some specimens of the bark of a shrub, which is generally employed in the East-Indies, the islands of Madagascar, France, Bourbon, &c. as a febrifuge in place of cinchona, with the most satisfactory results.

This bark is rolled somewhat like the cinchona, covered with an epidermis of a brown or greyish colour, interspersed with yellowish spots. The epidermis is about a line in thickness, granular in its tissue, and of a bright yellowish-brown colour: its taste is slightly bitter and aromatic. The interior bark, which constitutes the *liber*, is thin; of a reddish-brown colour; of a singularly bitter and poignant taste, somewhat resembling pepper in warmth, with a mixture of sweetness: its fracture does not present a resinous appearance.

The shrub that furnishes it is very common in Asia and some of the African islands: it is described by Van Rhee de, in his *Hortus Malabaricus* (tom. v. fig. 41,) under the name of *Kaka-Toddali*. It is a small thorny shrub, with tortuous branches, according to Commerson. The flowers are axillary, composed of a five-parted calyx, five petals, five stamens, three styles, and three stigmas. The fruit is a berry about the size of a nut, containing five oval-shaped seeds: it is rugous on its surface, and contains a volatile oil, in the same manner as orange-peel. The leaves are ternate, covered like those of milfoil with small translucid points, oval, lanceolated, a little dentated, and armed with prickles like the stalks and branches.

Linnaeus placed this plant in the class *pentandria*, order *trigynia*, under the name of *paullinia Asiatica*. Schreiber made it the genus *crantzia*; which has been changed into that of *scopolia* by Smith and Wildenow, under the name of *scopoliata aculeata*; and arranged with the *adelia* by De Lamark. Jussieu preserved the name of *toddalia*, by which it is known on the coast of Malabar.

ORIGINAL COMMUNICATIONS.

For the London Medical and Physical Journal.

Obstetrical Observations and Reflections; by W. HAMILTON, M.D.

ON perusing the critical department in the 237th Number of your useful Journal, I was much pleased with your notice of the excellent report of Dr. Clarke, of the Lying-in Hospital, Dublin. His practical observations on the result of upwards of ten thousand cases of midwifery are valuable indeed, and ought to make a very deep and lasting impression on the junior practitioners of that useful art; particularly at a time like the present, when unfortunate cases are more frequent than has been observed for years.

In his remarks on ordinary cases of labour, he is persuaded that it greatly contributes both to the safety of the mother and child, to allow the uterus *gradually* to empty itself during labour; and, with a view to secure its more perfect contraction, he has been for years in the habit of pursuing the fundus uteri with *a hand on the abdomen*, till the foetus be expelled. Such pressure also tends much to prevent profuse hæmorrhage, syncope, or retained placenta, &c. Here, in conformity of this practice, I would beg leave to call the attention of practitioners more generally to this plan; as I have also, for years, repeatedly witnessed its utility, often with the most agreeable surprise; not unfrequently delivering in a few minutes a lingering or laborious case, which had occupied the attention of the midwife for days, without any other assistance than the application of the left hand to the tumor of the abdomen (using as much pressure as the nature of the case required) during the pain, while with the right the progress of the foetus was observed. This simple practice not only does away the use of all the different methods of many practitioners here, of using towels and bandages, of different forms, girt round the abdomen; but will, in general, be found sufficient to render the vectis and forceps almost useless: or, as Dr. Clarke justly observes, "it is so long since he has had occasion to use them in private practice, that he is persuaded a fair opportunity of doing it with advantage does not occur once in a thousand cases:" even in the hospital they were used only about once in eight hundred.

As we are taught most of those sudden and alarming deaths which succeed natural labours are attributable to the sudden collapse of the larger blood-vessels, on the removal of the abdominal pressure, I am in the habit of ordering the hand of an assistant to be kept on the body till some time after the placenta be expelled; and the patient generally expresses much satisfied with the support it affords. Of this description, I have only met with one case in nearly six hundred; and even here it was more from an adherent placenta, as the uterus never contracted after its removal:—syncope succeeding, with convulsions, indicating internal hæmorrhage, soon terminated the melancholy scene.

In another instance, recently, where the patient had a very quick and favourable labour, the same untoward symptoms succeeded a few minutes after the natural expulsion of the placenta, and threatened for several hours immediate dissolution, notwithstanding the free use of brandy, opium, ether, hartshorn, &c. &c. Still, as was evident afterwards, the abdominal pressure, and stimulating contractions of the uterine region, alone saved her; as, on the succeeding day, a mass of coagula, nearly as large as the whole volume of the child, was expelled.

The beneficial effects of this practice was rendered still more obvious by the speedy recovery of a late patient from the worst species of placental presentation, between the eighth and ninth month of pregnancy. She had been flooding profusely at intervals for three days, under the management of a very experienced midwife, who kept anxiously waiting the advancement of the child, or the appearance of pains; neither of which succeeding, and the sufferer nearly exhausted, fainting and scarcely able to articulate from the great loss, the right hand (the left being placed on the abdomen) was introduced, and with some difficulty passed through the centre of the placenta, ruptured the membranes, found the child even above the projection of the spine, brought down the feet, and delivered her, at the interval of three or four pains, of a fine living male child. Continuing the hand on her body, supporting and contracting it occasionally, the after-birth soon followed; and it was remarked that neither syncope nor loss of blood succeeded; and her subsequent recovery was as quick as from her former confinements.

As it is equally evident that the pressure and support here recommended are as proper, as it is clear that the general cause of these sudden deaths is want of contraction, and consequent internal hæmorrhage, it is unnecessary for me to add farther examples. I shall, therefore, conclude for the

present, by begging leave to recommend the subject to the serious attention of your practical readers, in hopes this dangerous description of cases may become as rare as the puerperal peritonitis is now rendered, by the exhibition of a few large doses of calomel, as formerly recommended. .

Ipswich; Nov. 12, 1818.

For the London Medical and Physical Journal.

Case of Femoral Aneurism; by WM. BOND, Esq. Surgeon to the Norfolk and Norwich Hospital.

JAMES DENNY, aged 31, of the parish of Saham Joney, Norfolk, a soldier of the fourth division of marines, five feet eight inches high, spare habit, and dark complexion, was received into the Norfolk and Norwich Hospital, June 2d, 1818, as a patient not admitting of delay, with an aneurism of the right femoral artery, the size of a large breakfast-cup, situated very high up, above Poupart's ligament: the pulsations were very evident, even to the sight, and synchronous with the heart; it gave him great pain, preventing him perfectly extending the limb. The disease is of three years' standing, and, till the last two months, never enlarged beyond the size of a nut; since which time it has rapidly increased to its present size. He can give no account of its origin; never recollects having strained himself. He has been a soldier twelve years.

On a consultation being called, on Sunday, June 6th, the operation of tying the external iliac artery was agreed upon, as being the only means of saving the life of the patient; especially as it had increased so rapidly upwards since Tuesday, the increase of two or three days more would probably have excluded the benefit of an operation. The operation was performed in the following manner, at eleven o'clock:—

The patient being placed on a table in an horizontal posture, an incision was made, five inches in length, through the integuments of the abdomen, and extending from near the anterior superior spinous process of the ilium, in an oblique direction, inwards and downwards to the bottom of the tumor; by which means the fascia of the external oblique muscle was laid bare, which, together with the internal oblique and transverse muscles, were divided by the next incision. That part of the peritoneum now exposed was divided, and the artery sought for, and easily found, and tied by a single ligature; when pulsation of the tumor instantly ceased. The outer wound was brought together by straps. When

the patient first returned to his bed, (the pulse 50,) an anodyne draught was ordered. At two o'clock, pulse 54; complains of pain shooting from his hip to his knee; pulse is hurried; no sleep yet. At three o'clock, increased heat all over him; pulse 61, intermits, and is hurried; pain in the limb better. Four o'clock, pulse 61; limb, the same; he does not complain. Eight o'clock, pulse 80; heat of the operated limb 100, but two more than the sound one,—indeed, all along the heat has been pretty equal; V. S. ad. $\frac{3}{4}$ xiv.: complains of pain of the thigh, and feels quite wearied; aut. rep. haust. anod.: pulse, after bleeding, 65. Twelve o'clock, pulse 70; no pain. Three o'clock, pulse 80; they have not that hurried intermitting manner: has slept pretty well, though at short intervals.

Monday morning, eight o'clock.—Passed the rest of the night pretty well; pulse 96; v. s. ad. $\frac{3}{4}$ xvij. which reduced them to 80. At eleven o'clock, pulse 100; blood much inflamed, thick buffy coat. Four o'clock, pulse 80; has had no stool since the operation; was ordered some medicine. Eight o'clock, pulse 74. Nine o'clock, pulse 100; tongue white.

Tuesday morning, eight o'clock.—Pulse 80; rep. medicam.; slept pretty well; no relief from the bowels. Eleven o'clock, pulse 80; nothing worthy of remark; both feet rather cold. Eight o'clock (evening), pulse 74; no stool yet; skin hot and dry; an enema was administered, which procured a copious evacuation, which greatly relieved him.

Wednesday morning, eight o'clock.—Slept tolerably well; complains of faintness. Eleven o'clock, pulse 80; bowels relieved; wound dressed to-day, looks healthy, discharges laudable pus. Eight o'clock (evening), pulse 74; both extremities rather cold, wrapped them up in flannel; bowels again relieved.

Thursday morning, eight o'clock.—Pulse 59; passed a bad night, was restless and uneasy; wound is painful. Eleven o'clock, wound has adhered, particularly towards the tumor, but a free opening is desirable for the exit of the discharge, which is very plentiful; pulse 80; temperature of the extremities, the same; no other alteration. Eight o'clock (evening), feels weary for want of sleep; pulse 70; great alteration in the appearance of the tumor, its volume being lessened, and softer.

Friday morning, eight o'clock.—Passed a restless night, as the bowels were not relieved yesterday; pulse 81; but the bowels were relieved this morning copiously; complains his hip is sore from lying, being obliged to lay on his right side, with the limb in the same angle, to further the dis-

charge from the wound. Eight o'clock (evening), pulse 70; bowels again relieved this afternoon.

Saturday morning, eleven o'clock.—Pulse 76; passed a good night; complains that the wound, whilst dressing, is very painful; the temperature of the limb the same.

Sunday.—Remains the same; pulse quiet and natural; passed a good night.

Sunday, June 21st.—Every thing has gone well up to the present time: appetite good; has been kept very low; sleeps well, and the bowels regularly relieved; temperature of the limb equal; no pulsation to be felt, and no œdema. The ligature came away to-day with the dressings, being the fifteenth day since the operation. The tumor is much smaller, and altered in appearance; its feel to the touch seems broken down (if such an expression may be used), one part feeling hard and elevated, the other soft and hollow.

Tuesday, June 23d.—A surprising change has taken place in the appearance of the tumor since the last dressing, being more than one-third less, owing to a copious discharge of grumous blood from the wound, which was probably part of the contents of the aneurismal sac, finding its way upwards into the cavity of the wound; which event took place last evening, about six o'clock, accompanied by no particular pain or sensation in the tumor. The patient's apprehensions were awakened by this unexpected occurrence, which prevented him sleeping the earliest part of the night, but this morning is as well as usual; pulse 65; the angles of the wound are united, and the other parts look healthy.

Wednesday, June 24th.—The discharge of the coagulated blood is rather increased in quantity, and pressure on the tumor (which is now nearly on a level with the surrounding surface) drives the discharge through the wound, plainly showing its communication with the latter: in other respects he may be said to be well, the general system not being out of order.

Friday, June 26th.—The discharge of grumous blood is much diminished, and is also puriform; the wound is much contracted, and adhesion seems to have partly taken place in the cyst, as it is much firmer.

Monday, 29th.—The wound and integuments of the sac are very much inflamed, and have been so three days: a discutient is applied; the parts are very painful, which has prevented his sleeping for the last two nights; appetite good, pulse and secretions regular.

Tuesday, 30th.—The symptoms of suppuration of the sac are commencing, the discharge from the wound having

nearly ceased, owing to the closing of that orifice from whence it issued from the sac: he was ordered opii gr. j. omni nocte.

Wednesday, July 1st.—The tumor is much enlarged to-day, from the matter collecting: it is very tender and painful in consequence; it may be expected to break in twenty-four hours; the parts are constantly wetted with the saturnine lotion.

Thursday, July 2d.—The tumor being very painful and enlarged, a common cataplasm was ordered instead of the lotion.

Friday, 3d.—The abscess burst at about twelve o'clock last night, and discharged very plentifully; the pus is of a good colour: the part is still very painful.

Monday, 6th.—The patient sits up to-day for the first time: the abscess has nearly done discharging; the granulations of the wound are above the surface, and require to be repressed by escharotics.

Friday, 10.—He was allowed meat and beer. The tumor has continued to decrease, and he is going on well.

From this time until the 8th of August, he continued gradually to regain his health. He walks without any difficulty, and was this day discharged cured.

Norwich; Nov. 16, 1818.

For the London Medical and Physical Journal.

Further Observations on the Case of Miss Margaret M'Avoy;
by THOMAS RENWICK, M.D.

I DEFERRED addressing you sooner on the subject of Miss M'Avoy's very extraordinary case, from the frequent expectation of its terminating fatally, and of being enabled (if such an event took place) of ascertaining the exact state of disease, and probably the cause of her blindness. Although her present state of health is very precarious, I do not think she is in any very immediate danger, as the abscess has burst four different times, and the matter has passed off with the urine. It is again accumulating; but, as it has found an outlet, it is possible a favourable change in her general health may take place.

Since the 16th of April, Miss M'Avoy has been uniformly ill: afflicted at times with convulsions, hysteria, and loss of speech; constantly complaining of more or less head-ach, and pain in the sockets of the eyes; with very little power of loco-motion. She is scarcely aware of obtaining sleep;

or, if she do sleep, the most horrible dreams and night-mare assail her, so as to render the state of waking to be preferable to sleep under these circumstances. She has not lain down in bed, since last December, but sits in an arm-chair, or upon a sofa, with her legs sometimes in an horizontal posture, but with her body erect. Her legs and feet swell, and there is a generally leucophlegmatic appearance over her whole body. The catching and oppression in the breathing, and the convulsive motion of the diaphragm, have been so violent as to make it necessary to take from the arm from four to eight ounces of blood at a time; and to repeat the operation upon the recurrence of the symptoms. The bleeding almost uniformly relieved the symptoms, and the blood exhibited a very inflammatory appearance; so that, had this practice not been resorted to, under even discouraging circumstances in the first instance, she must long since have fallen a sacrifice to the violence of the disorder.

Since January last, in forty-one bleedings, she has lost about 245 ounces of blood. The pulse has varied from 108 to 120 pulsations in the minute; but sometimes it has very much exceeded this number.

On the 29th of November, she was seized with convulsions and loss of speech; and again on the 2nd of December; but she did not recover her speech until the 5th. In the evening of the 3d and morning of the 4th of December, she passed from three to four ounces of purulent matter; a part of which is now in my possession.

She has not recovered the power of distinguishing colours, reading, &c. but has sometimes named the colour of metallic substances. I have seen her do this momentarily, in one or two instances; but she lost the power when seized with the catching in the breathing, or upon any sudden spasm attacking her side. She was uncovered. If no fatal event take place previously, it is my intention to publish the continuation of her case early in the spring, with an analysis of the evidence brought against her, and a recapitulation of the more striking proofs in her favour; with a few additional facts which have occurred since the publication of the narrative.

Liverpool; Dec. 11, 1818.

P.S. I will thank you to correct the following errors in your Journal for June last:—In the 3d line of page 477, for *addressed* read *adduced*; and in lines 13 and 14 of the same page, for *when-ever* read *whatever*: in line 18 of the same page, for *M. Renwick* read *Thomas Renwick*.

For the London Medical and Physical Journal.

Reflections on the Treatment of Insanity; by GEORGE NESSE HILL, Esq.

AMONG some very excellent reflections on the highly important subject of blood-letting in maniacal disease, by your learned and valuable correspondent Dr. Kinglake, inserted in your Number for November, p. 372, he very pertinently observes—"My motive for submitting the above observations to the public is to restrain what would appear to be a very pernicious practice,—that of carrying bleeding to a most daring and hazardous extent in affections of the brain, however circumstanced:" justly adding—"It seems, therefore, that the present licentious abuse of bleeding requires that the experienced and the reflecting part of the medical faculty should enter their protest against the immoderate length to which it is often carried."

If Dr. K. had done me the honour of perusing the "Essay on the Prevention and Cure of Insanity," published in the year 1814, he would have found the following observations bearing directly upon the interesting point on which he has so ably descanted, and confirming his appropriate remarks. Such readers of your valuable Journal into whose hands the Essay has not yet come, will not object to the citation of a few proofs that the subject in question has not been heretofore wholly neglected.

"It is much too common a practice with professional gentlemen who do not attempt, nor indeed wish, to take farther steps in the cure of insanity, to instantaneously direct a copious bleeding of the maniacal delirious subject. This practice is as indiscriminate as it is frequent, and meriting high reprobation: notwithstanding such a procedure has the sanction of ages and of names illustrious in the public opinion, still it is injuriously erroneous."

Essay on Prev. and Cure of Insan. 285.

"No sooner is the existing disease determined to belong to this class [mania], or indeed lunacy in any shape, but bleeding, hellebore, chains, painful degrading coercion, starving, and dark dungeons, crowd on the mind."—"The evacuation of blood, however, takes the lead, dangerous as the operation must ever be when practised upon high maniacal subjects; and, when it fails in reducing the raging, miserable, and loathed sufferer to calmness, it is again and again repeated. '*Iterare pugnam.*' '*Saignez le encore;*' as though it was the *siné qua non*, as indeed it generally is of folly and ignorance, daily adding more incurable subjects to the enormous number already shut out from society."—He was bled thirteen times, every time till he fainted, in the compass of six

days: he recovered, but soon relapsed."—"I have known another case, where it was supposed the patient was bled to death, without its producing any alteration in the complaint." *Domestic Guide*, p. 105. Dr. Ferriar on the Conversion of Diseases, p. 136. Essay, p. 286.

"It is an undoubted truth that, in fifty maniacs, labouring under the highest degree of the sthenic form, not more than from seven to ten of them will require this most powerful means of reduction of the vital power; and let it never be forgotten, that sudden and profuse bleeding is always (even in this form, however furious,) highly dangerous, and never necessary."

Ibid, p. 288.

"In fact, to quote M. Pinel's own words, the subject has been 'thrown into a kind of imbecility and idiotism by the excessive use of the lancet.' Pinel, p. 88. 'Nay, immediate death has been the result.' See Whytt on Nerv. Dis. p. 590. Let, then, the young practitioner read such a case seriously, and pause before he adds to the number of incurable lunatics."

Ibid, p. 290.

"Blood is, in high sthenic insanity, always what is called buffy; but such an appearance by no means indicates the necessity of repeating the evacuation until the buffiness ceases to exist; although such a practice has been often recommended, and there is no doubt been faithfully executed, till stopped by the departure of the sufferer 'to realms unknown.'"

Ibid, p. 290.

—But your Journal must not be loaded with useless repetition, however interested every human being that breathes is in the subject: sufficient has been recorded to prove that a solemn "protest against the immoderate length to which bleeding is often carried" has long since been entered. Yet, notwithstanding this fact, such able men as Dr. Kinglake cannot too frequently second the efforts of less popular writers to stem the torrent of folly, remove the films of ignorance, and rouse the attention of the careless and the indifferent,—not to mention the blameably mischievous, or the wilfully indifferent.

At this momentous crisis, it would be almost an unpardonable violation of feeling to close this letter without remarking that eventful time has again disclosed to our pained senses a striking and, if we choose it, a salutary, though severe, lesson on the tremendous consequences of defective energy in the prompt and effectual treatment of nascent, but decisive, mental aberration, and the ultimate prevention of suicide: Shall the shock which public feeling has recently sustained be merged in the stream of common events, and

merely serve to "point a moral or adorn a tale?" or shall it be improved to the benefit of the present rising generation? Among the medical faculty, there will not surely be a solitary instance of one member so lost to the honour and the glory of his profession, as not to rouse himself to the determination that no part of the circle which his individual practice embraces shall want the timely scrutiny so eminently calculated to prevent the repetition of events so deplorable, and, when committed, so uselessly regretted.

A subject of greater moment cannot occupy the attention of your readers. Impressed with this conviction, it is neither arrogance nor presumption to remind such of them as have perused the work already quoted, of the doctrines and plan of treatment laid down in the chapter on the Prevention of Insanity: * a very cursory re-perusal will convince them that, had the principles there inculcated been faithfully acted upon, the last great man, whose loss we now lament, would, in all human probability, still have breathed the "vital air."

Chester; Dec. 1, 1818.

For the London Medical and Physical Journal.

Observations on some curious Physiological Phenomena witnessed in a Case of Fever; by P. T. JAMES, Esq.

A GENTLEMAN, aged 41 years, of particularly temperate habits, and of a very delicate and nervous constitution, was attacked, on October the 12th, (after travelling a journey of fifty miles in his carriage,) with slight rigors and a general feeling of lassitude. For these symptoms he took some aperient medicines. The next day the sensation of debility was increased: the skin was hot and dry, the tongue white and furred, and the bowels were much inclined to constipation. The heat of the skin was moderated by the plentiful application of cold water and air; the medicines consisted of aperients, salines, and sedatives. The

* The highly-intelligent minds of the two last exalted beings, which were gradually undermined by disease overwhelming the intellectual powers, enabled the sufferers to describe the gradual but steady approaches of insanity, coinciding most minutely with the general history given in the Essay. Of this assertion every reader must be convinced, who will be at the trouble of comparing the evidence given on the coroner's inquest and the sentiments of the author.

febrile symptoms slowly increased. About the 18th, the abdomen became a little painful upon pressure with the hand, especially on the region of the liver. These symptoms were in part removed by leeches, blisters, and small doses of the blue-pill. The action of the bowels was very imperfect, and on the 21st they began to be distended with air. The bladder lost its power of acting; the use of the catheter became necessary night and morning. The head was not affected, the intellects being perfectly good. The pulse was about 110 in a minute, small, and rather hard. The skin was occasionally very hot, with great thirst. There was a tendency to paralysis; the lower lip being drawn a little to the left side, and the tongue, when thrust from the mouth, involuntarily pushed to the right side. The tumefaction of the bowels progressively increased upwards, with an increased difficulty of acting upon them with medicines.

I do not consider it necessary to detail the daily prescriptions, because medicines were productive of but little advantage.

The pulse, at this time (the 27th), became peculiarly variable; and, what I particularly wish to direct the reader's attention to, upon the introduction of $\frac{3}{4}$ ss. of oil of turpentine into the rectum by enema, the pulse instantaneously fell in frequency from 120 in a minute down to 60, and, from a very small, it became a full and good pulse. In the space of a couple of hours, its frequency again increased, and again lost its strength. In the evening of this day, the artery beat, in the right wrist, about 110 in a minute, very small and feeble; at the same time the pulsation in the left wrist was full and strong, but of the same frequency. My attention was forcibly drawn to this peculiarity; and I was much surprised to find, in a few minutes, the strong and full pulsations were changed to the right arm, while the artery in the left became so small and feeble as scarcely to be felt: and it is remarkable that the strong pulse frequently changed from one arm to the other during the remainder of the patient's life, which was terminated on the 29th.

A peculiarity occurred in the temperature of the skin a few hours previous to death: the fingers of the left hand were quite warm, the hand itself quite cold, the fore-arm warm.

I feel the greater satisfaction in the relation of this case, because it came under the observation of Dr. Wilson Philip, who saw and prescribed for the patient. He observed to me, that he had never seen nor read of a case in which the

influence of the nervous system on the blood-vessels, independently of any action of the former on the heart, was more strikingly displayed. It appears, from the experiments related in his *Enquiry into the Laws of the Vital Functions*, that the power of the blood-vessels may not only be influenced, but wholly destroyed, by affections of the nervous system. In another respect, this case appears to illustrate, in a striking manner, the results of his experiments. From them it appears, that the ganglion nerves are distributed as extensively as those proceeding directly from the brain and spinal marrow, the former influencing the blood-vessels through every part of the system; and that these two nervous systems may be separately affected. In the case before us, it was evidently the ganglion system that was affected. The slight affection of the muscles of voluntary motion, which appeared in the affection of the lip and tongue at an early period, quickly disappeared on the application of a few leeches to the temple; and the patient, to the last, retained the perfect use of all these muscles and of his intellects: but the bowels, the bladder, and the heart, (all of which derive their nerves from the ganglion system,) were greatly and permanently deranged,—the two former soon wholly and irrecoverably losing their power. The state of the temperature in the left arm previous to death was also very remarkable. It appears, from Dr. Philip's experiments, that the evolution of heat in the animal body is under the influence of the ganglion system. Mr. Brodie had formerly shown that it was influenced by the nervous system.

The case above related I consider not less striking than that quoted by Dr. Wilson Philip from Dr. Parry's work on the Pulse; where all voluntary power was lost in one arm, in which, however, the heat and pulse were natural; while the other arm was cold and without any pulse, but possessing complete voluntary power.

Hereford; December 3, 1818.

For the London Medical and Physical Journal.

Case of Strangulation of a Portion of the Intestines from Rupture of the Mesentery; by RICHARD PHILLIPS JONES, Esq.

A BOY, eight years of age, upon his return home in the evening from school, had some nuts given to him, which he cracked and ate: afterwards, he exercised himself

with a skipping rope to such an excess we seldom hear of; the extent of which feat the little sufferer boasted of until he was put to bed. About twelve o'clock, he was suddenly attacked with most violent pains in the abdomen, resembling severe colic pains. Some cordial purgatives and other medicines were administered, and several times repeated, without producing any mitigation of the symptoms. The boy died in a very few hours from the commencement of the pains.

The body was examined three days after death. I observed no peculiarity in looking upon the corpse externally, save a considerable tumefaction of the abdomen, and which, upon compression, yielded with an unusual degree of elasticity. Having laid open the cavity of the abdomen, the following were the appearances:—One half of the small intestines occupying the right side were of an uniform deep purple hue, distended with flatus, and approaching in some parts to gangrene. The convolutions upon the left were, on the contrary, in the natural state, but were distended with flatus. The colon had entirely lost its character: so shrivelled up and contracted were the coats of this intestine, that I was even frustrated in the attempt to introduce the tip of my little finger within its cylinder; a considerable quantity of bloody-coloured serum was effused within the abdominal cavity. The stomach and duodenum were perfectly healthy; so was also the liver and all the solid viscera. The gall-bladder was very considerably distended. I was unable, for a time, what to make of the mesentery in this dissection. Being very desirous to have as simple a statement of the cause of death as possible, I very carefully unravelled the whole, and found precisely one half of the intestines to have passed through an opening at the root of the mesentery. The opening was so small as would, critically, allow nothing more to pass than intestine, drawing with it its portion of mesentery; assisted, probably, by the peristaltic motion of the intestines, as well as being urged by the violence of the exercise. Immediately in contact with the stricture, I found a hard substance wedged within the opening and within the intestine: so firmly was it fitted in this situation, that I could scarcely pass a probe between it and the sides of the stricture. I opened the gut to ascertain of what substance this ball was constituted: I found it to consist of the undigested nut-kernels the little boy had eaten; which, no doubt, had been so firmly lodged here during his severe exercise, and which produced so violent a strangulation, such extensive gan-

grene, and consequences so abruptly fatal to the little sufferer.

The hole in the mesentery appeared to have existed for some time; and it is very probable that the intestine may have been noosed by it, in a short time after its formation; but still the natural actions were carried on, and the fecal matter was allowed to pass, until the intestines, being excited by the undigestible nuts and the great exertion of the boy, became strangulated. The nuts were allowed to enter the noose, but were prevented from passing out again, and consequently created great irritation; a state very analogous to an intestine in a herniary sac becoming strangulated in consequence of the passage of some hard feculent matter.

22, *Suffolk-street, London*;

Dec. 28, 1818.

For the London Medical and Physical Journal.

Case of Pleuritis; by RICHARD LANYON, JUN. M.R.C.S.
Licentiate of the Society of Apothecaries, London, &c.

RICHARD REED, the subject of the following case, is a man about 30 years of age, who, by over-fatigue and industry, has very much impaired his constitution; so that the *stamina*, which previously manifested the vigor of youth, now bore evident marks of rapid decay. Thus disposed to disease, he was, on the 28th of last month, seized with a pain in his side, about the sixth rib; and, after a while, the left was similarly affected: the pain, however, was not to any violent degree. When I saw him, he complained also of pain in the region of the sinciput. Pulse soft and natural; slight cough, with a load on his chest, unattended by any marked symptom of fever. With a view of relieving the pain in the head, and restoring the balance to the circulation, the following mixture was ordered:—*R. Tincturæ digitalis, ℥. xxx. Syrupi simplicis, f. 3vj. Aquæ Puræ, f. 3v. M. ft. mistura, cujus capiat æger cochlearia duo sextis horis.* A simple aperient, with sulphate of magnesia, was also enjoined.

29. A.M.—Had little or no sleep last night, notwithstanding the pain in the head is much alleviated. Pain in the left side more severe than in the right, and is more distressing than yesterday. Pulse not varying from the natural standard. The aperient was effectual in its operation.—*Mistura ut heri repetenda.*

30. A. M.—Pain in both sides augmented; slept well during the greater part of last night; bowels sufficiently lax. A blister was ordered to each side. Sixteen ounces of blood were drawn from the arm, which did not exhibit the usual characteristics of inflammation.

December 1st.—Slept well at intervals, though profuse perspiration came on while asleep. The pain suffers no mitigation, but is now felt more sensibly above the situation of the blister on the left side; the pain on the right side being much relieved. All the leeches which could be procured were applied, amounting, however, only to the small number of five. Pulse hard, and sufficiently full to demand a second bleeding, which was very much cupped and buffy. The pediluvium has several times been made use of, and still is had recourse to occasionally. From this, as well as from heat applied in any form, he has received much temporary relief.—R. Potassæ nitratis, ℥ij. Syr. papav. albi, f. ʒi. Aquæ puræ, f. ʒv. Mft. mistura, cochliaria duo quartis horis sumenda.

I need not give the daily particulars any further, for the preceding symptoms were the leading features of the disease throughout; neither need I add, that the antiphlogistic regimen was strictly followed. Frequently-repeated blood-lettings, however, soon abated the inflammation, and the blood abstracted, up to the Friday following, amounted to nearly 100 ounces; when he was pronounced convalescent.

Observations.—It is a curious fact, that, during the incipient stage of this disease, (when no febrile symptoms are perceptible, and when you draw blood to relieve the distressing pain in the side,) that blood shall not be inflamed; yet the inflammatory diathesis does not fail to show itself in a short space of time afterwards, and that too to an alarming degree.

Cases of pleuritis are but comparatively rare to what preceding years have produced; and this may be fairly accounted for from the great mildness of the season. I am very well aware that there is nothing novel in this case; neither should I have sought a place for it in your Journal, had I not observed the following circumstance:—During the time the inflammation was at its acme, and of course when the greater part of the blood was drawn, it was accidentally, at one of these periods, received into two vessels. After they had stood a little time, it was observed that the portion drawn just before closing the orifice had more of a buffy and cupped appearance than that which had been before taken. That which escaped first from the vein having been allowed

to rest, it was found that the crassamentum was natural, excepting on its surface a small quantity of buff, about the size of an eighteen-penny piece; but the incrustation was so abundant on the surface of the other, that the crassamentum was totally hidden from view. Now, this is a circumstance which I have never before observed; neither have I seen an attempt to account for it in any author which I have consulted. I have never yet heard it doubted that the blood, either in a diseased or healthy state, was any other than *homogeneous* throughout; yet this experiment, which was more than once repeated, would seem to argue the contrary. If, according to the theory of Dr. Fowler, inflammation consisted merely in *increased action alone*, its consistency and similarity should have been the same in every particular. If this had been the case, each portion of blood should have been proportionately cupped and buffed. I do not, however, mean to enter on the different theories of inflammation which have been advanced, lest I get into a labyrinth in which I might, with all imaginable ease, lose myself in idle speculations and useless hypotheses. I should, therefore, feel desirous of putting the question through the medium of your valuable Journal.

Lostwithiel; December 12, 1818.

For the London Medical and Physical Journal.

On the Detection of Arsenic, in Answer to Mr. Prideaux;
by J. HUME, Esq.

ALTHOUGH the chief tendency of some of my late letters on the detection of arsenic has been to defend what I have long considered to be unassailable, I have never neglected, as often as an occasion presented itself, to blend controversy with instruction. The position I have assumed, and now fixed, is this—"that nothing is more readily and securely detected than arsenic; and that its re-production into the state of *white oxide* can never be liable to deception." I may with the same confidence add, that, to prefer any process for obtaining the poison in its *metallic* form, when the quantity is small, and probably only suspected to exist, argues either great poverty of experience, or excessive and unreasonable obstinacy in such advocates.

Mr. Prideaux has essentially misconceived nearly the whole of my letter in your Journal for October; the most material parts of it are either garbled or misquoted. All the progress of the experiments, after the words "this proof

alone," until the evidence before the coroner's jury, has been omitted; nor has he noticed the advantages that are derived from the very insoluble quality of white arsenic, which is so contrary to that of the only phosphates that could interfere. Let Mr. Prideaux again consider my letter, particularly the experiments upon the contents of the coffee-cup; he will, at least, see that no acidulated phosphate of soda could be in my way.

The first paragraph of Mr. Prideaux's last letter seems to acknowledge all I could wish; so that, notwithstanding the other parts, I no longer deem him an opponent. My time at present is too much occupied to allow me to enter fully upon some of his objections; all of which are already obviated, if he will but re-consider my letters. I had, indeed, nearly determined to let the matter rest here, but that one circumstance he has mentioned calls for an early observation: it is where my words are mis-quoted in such a way that it would appear, from one proof or experiment only, I took upon myself the whole responsibility of proceeding to an inquest. At page 470, line 12, Mr. Prideaux writes *my* instead of *our*; whereas, if the context be taken in, your readers will find, that "Mr. Holdsworth and I then agreed to the propriety of *dissection*, and that the contents of the stomach should also be obtained to *aid* the enquiry." On numerous occasions, a coroner's inquest implicates no person's character; indeed, it is always a court of inquiry, and the result is often an unoffending and simple verdict,—such as "Died by the visitation of God;" "Found drowned;" "Died by suffocation," &c.

I could wish Mr. Prideaux had been silent about the Launceston trial, especially on the "three points of evidence." I am very unwilling to press the subject, and again to touch upon the evidence that was displayed on that occasion. The anecdote which I quoted in a former letter proves that all the reasonings of an incompetent witness are mere empty vapours; they are of no value as testimony. In this sentence (I trust I shall be fully understood) not the slightest allusion is meant to Mr. Prideaux, whose abilities and character I have every inducement to respect: he writes with temper, and it shall be my duty to follow his example.

Long Acre; Dec. 14, 1818.

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.

SEVERAL of the medicinal and surgical measures employed by the natives of the *Tonga Islands* are so highly interesting, both from the nature of the diseases for which they were employed, and the marks of accurate and judicious observation they evince in the people of that singular nation, that we have no doubt our readers will be gratified as well as instructed by a relation of some of the most important of them.

We shall at present give an account of their mode of performing paracentesis of the thorax; or, as they term it, the *Cawso*:—*

Cawso is an operation which is performed to allow of the escape of extravasated blood, which has lodged in the cavity of the thorax in consequence of wounds, or for the extraction of a broken arrow. There are no other instances where they think of performing it. The instruments they use are a piece of bamboo and a splinter of shell; sometimes a probe made of the stem of the cocoa-nut leaf. Mr. Mariner has seen a number of persons on whom the operation had been performed, and who were in perfect health; and two instances of the fact itself he was an eye-witness to. The one we are about to describe was performed upon a Fiji islander, who had received a barbed arrow in the right side, between the fifth and sixth ribs; not in a line directly below the nipple, but about an inch backwards. The arrow had broken off about three inches from the point,† under the third row of barbs, and, from the rise and fall of the thorax in the act of respiration, the whole piece was perfectly concealed from any external view: the barbs and the point were of the same piece with the arrow.

* *From an Account of the Natives of the Tonga Islands, in the South Pacific Ocean; by Mr. William Mariner. 2 vols. 8vo. Murray, London.*

† They are made thin under each barb, on purpose that they may break. The barbs of this arrow were about a quarter of an inch transverse diameter, and the stem of the arrow under each row of barbs about the eighth of an inch.

A countryman of the wounded man wished to perform the operation; but the patient desired that a friend of his, a native of Vavaoo, should manage it: this proved that he placed at least equal confidence in his skill as in that of his countryman; for he had seen him perform the operation several times before, at the Fiji islands.

The patient was now lying on his back, but a little inclined to his left side; and this was considered a favourable posture for the operation. It was a fine clear day, and the weather warm: had it been rainy or cloudy, or had the patient felt himself cold, fires would have been lighted in the house, and a burning torch held to his side, to relax the integuments, and to render by such means the wound more favourable. The wound had been received the day before; and, on pressing the finger upon its orifice, the broken end of the arrow could not now be felt, except by the pain which such pressure gave the patient. In the first place, the operator marked with a piece of charcoal the situation and length of the intended incision, which was about two inches; the small wound made by the arrow being in the centre of it. The integuments were now drawn upwards, so that the black line lay upon and parallel with the superior rib; an assistant pressing his hand above, and another below, the situation of the intended incision, with a view to keep the integuments firm and steady. The operator having now chosen a fit piece of bamboo, began his incision, and carried it down to the bone, the whole length of the mark, which was done by five or six motions of the hand, aided by considerable pressure: in this part of the operation a shell could not be used, on account of its liability to break. The integuments being now allowed to return to their natural situation, the incision was cautiously continued with a splinter of shell, midway between the two ribs, dividing the intercostal muscles to nearly the same extent as the external wound, to allow of the introduction of a finger and thumb to lay hold of the arrow: during this part of the operation, however, the end of the arrow became perceptible, protruding between the costæ at every inspiration: the operator, as soon as possible, secured it with the finger and thumb of his left hand; whilst with his right he proceeded to widen the incision on either side, that he might take a deeper and firmer hold, and secure, if possible, the second row of barbs. To facilitate the operation, he now slipt the noose of a string over the barbs he held between his finger and thumb, and, having secured which, his left hand was no longer in the way of his right; for, by drawing the string as far as prudence would allow, he kept it prest upon the superior rib, and thereby preserved the arrow from receding at every expiration. The incision was now carried through the intercostal muscles and the pleura, sufficiently to allow of the introduction of the finger and thumb of the right hand, with which he endeavoured to disengage as much as possible what might obstruct the barbs; whilst with his left finger and thumb he laid hold of the end of the arrow, and kept gently twisting it, always one

way, so as to break down those obstructions which could not be removed with the other hand, taking care, however, not to use so much force as might be supposed liable to break the barbs; and in this way, in the course of two or three minutes, he withdrew the arrow, bringing with it a small portion of the substance of the lungs, which could not be disengaged. During this part of the operation the patient was almost insensible: he was held by those about him, to prevent any mischief arising from his struggles, which at times were violent. The operator now carefully examined the arrow, and being satisfied that every barb (of which there were three rows) was entire, he ordered him to be gently turned on the right side, so that the wound was depending; and, to make it more completely so, a quantity of gnattoo was placed under him in two situations,—viz. under the shoulder and under the pelvis,—in such a way that the orifice of the wound was evidently the most depending portion of the thorax. The patient being now perfectly sensible, the operator desired him to make a full inspiration, enquiring whether it gave him much pain; and, being answered that he could bear it tolerably well, he desired him to make several full inspirations from time to time, but not so as to fatigue himself, and occasionally to move his body gently: by these means a considerable quantity of blood was discharged. A few hours afterwards, the operator introduced between the ribs a portion of banana leaf, smoothly folded several times, and anointed with cocoa-nut oil, as a pledget to keep open the wound. He ordered his patient to be kept perfectly quiet, not to be spoken to, no noise to be made, nor his attention to be attracted in any way: to live chiefly upon vegetable diet, or, if he had any kind of meat, fowl in preference to pork, or, if pork, it was to be very small in quantity, and without the least fat; with cocoa-nut milk for drink, in any quantity that he felt disposed to take. The first night he had a great deal of pain, much thirst, and little sleep; the following day he was much easier,—a great deal of blood was found to have been discharged, and a fresh pledget was introduced, which was renewed every morning as long as any discharge was apparent. When the discharge of sanguineous fluid ceased, which was in about nine or ten days, the operator introduced his probe, to be sure that the cessation of the discharge was not occasioned by any obstruction: he then contented himself with a more superficial pledget, that the external orifice might not heal too soon; and the patient was allowed to change his posture occasionally, but not for a long time together. As he grew better, a little more meat was allowed him; but the use of cava was interdicted until he got tolerably well. The wound healed in about six weeks, without any sort of dressing or washing. The patient was confined to his house about two months, and was not perfectly recovered till near a twelvemonth; when he seemed as healthy and as strong as ever, with scarcely any cough having supervened in the meanwhile. This was considered a very dangerous wound, and a very well-conducted cure. Mr. Mariner

does not know that they are acquainted either with the exact situation or existence of the intercostal arteries.

It often happens that the arrow, not being a barbed one, is withdrawn without any difficulty; but still the surgeon thinks proper to perform the operation of *cawso*, not by enlarging the wound made by the arrow, but by making another at some little distance from it, in a part which, either from judgment or education, he deems more safe and proper. In all those persons whom Mr. Mariner knew to have undergone the *cawso*, it had been performed in nearly the same situation as the one above stated.

We have observed in the before-mentioned case that the wound was not washed; and it may here be noticed, that, in all cases of considerable wounds produced by pointed instruments, the patient is not allowed to wash himself till he is tolerably well recovered, nor to shave, cut his hair nor his nails: for all these things, they say, are liable to produce *gita* (tetanus), unless the wound be of such a nature, and in such a situation, that it may with safety be first laid completely open,—then there is no danger. Mr. Mariner never witnessed a case of tetanus produced by these means; but he met with many who said they had seen it in persons who had got nearly well of their wounds: but, happening to wash themselves too soon, spasm supervened, and death was the consequence. They notice that wounds in the extremities, particularly in the feet and hands, are liable to produce tetanus: also, in persons already wounded, sudden alarms, or even any sudden noise that calls the attention abruptly, is liable to produce this complaint. They never allow females to be near men thus wounded, lest the mere stimulus of venereal desire should induce this dangerous complaint. As to cutting the hair and nails, they positively assert that the mere sensation of these simple and common operations has not unfrequently been productive of these dreadful consequences. The man, whose case we have just mentioned, was eight months without being washed, shaved, or having had his hair or nails cut.

Case of Change of Colour of the Skin from Brown to White in a Native of Bengal.

J. W. aged 56, a native of Bengal, his parents Mahometans, and both dark, left India about the age of ten or eleven, and has since resided in Edinburgh, chiefly performing the office of a servant; but since the last nine or ten years he has worked as a mason's labourer. During this period he has gradually lost his native dark colour, and become white, which he attributes partly to the climate, and partly to the action of lime and mortar in his occupation as a mason, which occasioned much itching of the skin. The change commenced in the hands and head; the hair, from being black and lank, has become light grey, and somewhat curled. The parts which last retained their colour were the breast and back of the neck. The only remains of his original complexion at

present are some irregular patches of a dull purplish colour, covering the upper parts of the cheeks and prominences of the ears, and a lighter patch at the tip of the nose. During the change of his colour, no sensible alteration was observed in his health.*

On Stimulants and Sedatives ; by Dr. WILSON PHILIP.†

IN compliance with your request, I trouble you with a few observations in illustration of the following remarks in the 254th page of the second edition of my Enquiry into the Laws of the Vital Functions; namely, "a moderate application of every agent appears to act as a stimulus; and excessive application of it as a sedative. The quantities which act as stimulus and sedative bear no particular proportion to each other, but in different agents exist in every possible proportion."

It appears, on the most cursory view of the phenomena of life, that they depend on a capacity of action in living parts, and the operation of agents capable of exciting them. Thus, the heart possesses the power of contraction, but it soon becomes inactive if the blood is withdrawn. The degree of excitement produced is proportioned to the force and continuance of the exciting cause and degree of excitability possessed by the part acted on. By the action of the stimulus, the excitability is always impaired, and by its continued action at length exhausted. Thus excitement continues, unless the agent is withdrawn, till the part is so far deprived of its excitability that it will no longer obey the same degree of the same agent. To produce further excitement, a more powerful agent must be applied, or the excitability of the part acted on must be increased.

The excitability is, within certain limits, increased by the abstraction of agents. Thus, for example, our sensibility (one species of excitability) is exhausted by the various agents which affect us during the day; and we find, by degrees, that the same agents no longer excite us. If more powerful agents are not applied, we soon fall into a state of insensibility—sleep, during which, the operation of the usual agents being withdrawn, we again become sensible to these agents.

Such are the more evident laws of excitability; and it would be easy, I think, to prove that they are the laws which regulate the cerebral system in a state of health. But it has been maintained that the same laws regulate the excitability of every part of the animal. To this position a very obvious objection occurs.

When the eye becomes wearied with seeing, the ear with hearing, &c. they cease to be excited; their excitability is thus allowed to accumulate, and they are again fitted for their functions: they

* *Edinburgh Clinical Reports*, p. 142.

† Communicated to Dr. Thomson, the editor of the *Annals of Philosophy*.

are not concerned in the preservation of life. An animal may be in perfect vigour, as far as relates to the powers on which his existence depends, although he neither sees nor hears. The vital powers remaining in sleep restore vigour to the exhausted organs of sense; but, were the vital organs themselves subject to similar exhaustion, what, during such intervals, would preserve the life of the animal? and by what powers would the vigour of these organs be restored?

It has been said, indeed, that the diastole of the heart arises from the stimulus of the blood exhausting its excitability in the systole which is restored to it during the interval that elapses between its contraction and the occurrence of that degree of distention which again excites it. But a very simple experiment shows the fallacy of this opinion.

If the heart is exhausted by the stimulus of the blood, and recovers its excitability during the absence of such a quantity of this fluid as is capable of exciting it, it ought not to recover its excitability if it is prevented from expelling any part of the blood which has excited it; for we have seen that the continued application of the same stimulus which has produced exhaustion cannot again excite the exhausted part, as no renewal of excitability can take place while the agent which exhausted it is still applied. The retina will never recover its powers under the impression of the same degree of light which exhausted it. We cannot recover from fatigue while the cause of our fatigue still operates. But the alternate contractions and relaxations of the heart still take place, as I have ascertained by repeated experiment, although a ligature be thrown round the aorta, in consequence of which the heart remains uniformly gorged with blood. The result of this experiment is not influenced by previously destroying the sensibility of the animal by a blow on the occiput.

If we sprinkle salt on a muscle, it does not occasion permanent contraction followed by exhaustion, but a constant alternation of contraction and relaxation, although the salt is never removed. The state of the muscle, however, in the relaxations which intervened between the contractions is evidently very different from that in which it is left when the salt can no longer excite any contraction in it.

The foregoing facts seem to prove that the nervous and muscular excitability obey different laws. While the effect of uniform stimuli acting on the former is permanent excitement, followed by exhaustion, the habit of the muscular fibre under the influence of uniform stimuli is to act by intervals. This is probably the cause why moderate excitement seems not to exhaust the muscular fibre, while the nervous fibre suffers proportional exhaustion from every degree of excitement.

Two circumstances appear to be capable of occasionally counteracting this habit, and producing in the muscular fibre permanent contraction, a peculiarly strong stimulus, and the influence of the will. It is only, however, occasionally that the most powerful

stimuli have this effect; and it is only for a limited time that the will can produce it. After a certain time, the natural tendency of the muscle to alternate contraction and relaxation prevails, and the limb which we wish to keep steady begins to tremble.

There is another species of debility of the living fibre, of a very different nature from the exhaustion we have been considering, which appears to bear no relation to any previous excitement, but to be the direct effect of agents; for, while some agents increase, others lessen, the action of this solid. The former have been called stimulants, the latter sedatives.

It has been maintained, indeed, that, as exhaustion is the effect of moderate excitement, the species of debility we are now considering is always the consequence of excessive excitement; and, therefore, that, like exhaustion, the sedative effect is never the direct effect of the agent. And this opinion seems, at first view, to be countenanced by the fact that stimuli act as sedatives when applied in excess. Thus, a moderate quantity of distilled spirits received into the stomach produces excitement, which, within certain limits, is greater in proportion to the quantity taken; but, if a very large quantity be suddenly received into the stomach, it produces no degree of excitement, but immediate debility, or even death.

It is surely a strained explanation of the latter effects, however, to suppose them the consequence of excessive excitement,—no symptom of which appears. The supposed existence of this excitement rests wholly on the preconceived opinion that exhaustion, in consequence of previous excitement, is the only debility which can arise from the operation of agents on the living fibre. It has, therefore, been maintained that, however imperceptible the excitement produced by large quantities of distilled spirits, for example, we must suppose that their first effect is excitement, and their debilitating effect, consequently, only secondary. And so much has this idea laid hold of the minds of many, that, in an account of the above Enquiry, lately published in a journal of great respectability, my opinion of the nature of inflammation is opposed on the ground that the operation of agents in producing this disease must, in the first instance, be stimulant; and the debility of the vessels, which it is admitted exists in inflamed parts, the consequence of previous excitement; and this is maintained without questioning the authority of my experiments, from which it appears that none of this previous excitement could be perceived with the aid of powerful microscopes. Now, I may surely be allowed to maintain that, where no increased action can be perceived, none should be supposed. We must not substitute hypothesis for plain matter of fact.

But, if this argument, which is of all the most conclusive, were out of the question, there is another, which (as far as I can judge) would be unanswerable, to which even the supporters of the hypothesis in question must listen. It must be admitted, even by them, that, if the tendency of different agents to produce debility

arises from the degree of excitement occasioned by their first impression on the living solid, those best calculated to produce excitement should be found capable of the greatest sedative effect. But this is so far from being true, that we find that the agents which produce the greatest degree of this effect are the worst stimuli. Tobacco, for example, which is one of the most powerful sedatives, cannot, by any management, be made to produce the degree of excitement which arises from opium or distilled spirits.

The sedative, like the stimulant effect, may be communicated to the muscular through the nervous system. When tobacco is applied to any considerable part either of the brain or spinal marrow, as I have ascertained by repeated experiment, the heart soon begins to act more languidly; but this languor is preceded by little, if any, increased action, unless the tobacco be applied in a very diluted state; in which case, it produces comparatively little languor, and the excitement is much less than that produced by opium, which is followed by no sensible languor.

If we disregard pre-conceived opinions, and fix our attention on facts alone, we shall, as far as I am capable of judging, arrive at the following conclusions.—Every agent capable of affecting the living solid acts both as a stimulus and sedative, according to the degree in which it is applied. Applied within certain limits, it is a stimulus; and, in proportion as it stimulates, it exhausts the excitability,—this being equally true of the interrupted excitement which stimuli produce in the muscular, as of the permanent excitement which they produce in the nervous system. Applied beyond these limits, agents no longer produce excitement followed by proportional exhaustion, but direct exhaustion arising from the operation of the agent, and wholly unconnected with previous excitement,—the stimulant and sedative powers existing in no particular proportion to each other, but in different agents in every possible proportion. I have just had occasion to mention the comparative effects of tobacco and opium in the heart. Thus, the stimulant power of distilled spirits is great, its sedative power small. It must be used in very great quantity to produce the sedative effect; while a small quantity of digitalis produces this effect, and its stimulant power is very slight.

These observations apply to agents affecting the mind as well as the body. Grief and fear possess great sedative power; they act as stimulants only when they are present in a comparatively small degree. Joy and anger, on the other hand, are powerful stimuli, and only act as sedatives when in excess. There is no exception, I believe, to the law we are considering. There is no agent which may not be made to produce a stimulant effect by applying it in very small quantity, and none which does not act as a sedative when applied in excess.

CRITICAL ANALYSIS

OF RECENT PUBLICATIONS,

IN THE

DIFFERENT BRANCHES OF MEDICINE, SURGERY, &c.

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(Continued from p. 91.)

II.—*History of a Case of Cæsarean Operation, in which the Lives of the Mother and Child were both preserved.* By J. J. LOCHER, M.D. Town Physician of Zurich. Communicated by J. A. ALBERS, M.D. of Bremen.

IT is extraordinary that the operation which is here reported to have been performed with perfect success, should, almost without exception, have been attended with an opposite result in this country. The records of continental surgery abound with instances of the favourable termination of the Cæsarean section; whilst the fatal issue of those cases in which it has been adopted with us, has for many years proscribed almost the bare mention of it. To what circumstances are we to ascribe a difference so marked in the success of an operation not difficult in the practice? Perhaps the practitioners of the continent, having less dread of the consequences,—the impracticability of natural delivery being determined,—have recourse to the operation in an early stage of labour, whilst the constitution is still tranquil and its powers unimpaired. If this moment be allowed to pass, and we wait until a protracted series of ineffectual efforts have worn out the patient, and brought the parts to be operated upon into a state of high irritation, if not of incipient inflammation, we lessen surely, to a fearful extent, the chances for our patient's life. As cases do unfortunately occur, where, from mal-conformation, the natural mode of delivery is physically impracticable, and the lives of both mother and child will necessarily, but for some interference of art, be sacrificed; it becomes unquestionably the duty of the practitioner, under such circumstances, to suggest and to press the adoption of a measure, which has the success of repeated experience for its sanction: and this at an early period of labour, or the chance of success will not remain.

In the case here related, Dr. Locher performed the ope-

ration, within the first twenty-four hours, by an incision in the linea alba, extending from immediately below the navel for eight or ten inches. After the parietes of the abdomen were divided, and the uterus brought into view, an uneven portion of the surface of this viscus was selected, in order to avoid the placenta, and an incision sufficient to admit the index of the left hand was made, from which, the finger serving as a director, the aperture was dilated with the knife from six to eight inches. The child with its membranes now presented, but without any water. The hæmorrhage till then was but very trifling. The child being liberated from the uterus, respiration immediately commenced, and the funis was divided. The placenta was found on the right side of the womb, lying almost free, and was removed. At this moment a violent bleeding arose from the bottom of the uterus. The blood was quickly absorbed by a sponge, to leave the organ to its own contraction, and to close the integuments. Dr. Locher observes, that he followed this method from having observed, two years previously, in a case where the woman died eight days subsequently to the operation, that the uterus was quite contracted, and the labia of the wound in it almost entirely united. The external teguments were now brought together by five sutures, lint and adhesive straps applied, and the whole confined with a couple of compresses and a broad bandage. The woman was put to bed; and neither fainting nor any other accident befel her. She took some broth; an opiate was given, and tranquillity enjoined. The lochia flowed *per vaginam*. Every thing went on well, with the exception of a sudden and somewhat alarming disturbance on the fourth day, from some undetected cause. This passed off, and the patient progressively improved. The ligatures came away towards the end of a fortnight, and the wound healed favourably. The menses re-appeared, somewhat irregularly, in the seventh week, and afterwards observed their due course. In the eighth week the woman transacted most of her domestic concerns, and was no more confined to her bed during the day. In the twelfth, she paid a visit to the Doctor, in the best health, accompanied by her infant.

A small spot, not exceeding two or three lines in length and breadth, in the middle of the wound, continues open, in spite of all remedies; and, when thought to be healed, shortly re-opens; but without detriment to the patient,

III.—*A Case of Inguinal Aneurism cured after the use of Compression.* By J. A. ALBERS, M.D. of Bremen.

In this case compression was made on the aneurism by an instrument constructed on the principle of a tourniquet, whereby regulated pressure could be made. After two months' constant application, so much pain in the part and œdema of the limb were produced, that it was relinquished. The tumor now attained a considerable size, being as large as a goose's egg, red and inflamed, and pulsated with violence. The whole thigh was extremely painful, and cold. Frictions with flannel were employed, and a low diet and antiphlogistic treatment; but no loss of blood. After the patient had remained a week quietly in bed, the pain and pulsation abated; the compress was again applied, without much inconvenience. The size of the aneurism now diminished, the pain and swelling of the thigh subsided, and the patient was soon able to walk with the help of a stick. The amendment was uninterruptedly progressive for six or seven months; after which time no further pulsation could be distinguished in the inguinal region, and the swelling and pain had wholly disappeared: the compress was no longer used. Some months afterwards, the thigh remained rather thin, with some trifling œdema, and a little weariness after much walking was experienced; but, in other respects, the man was well enough to resume his employment as a sailor.

Dr. Albers does not adduce this treatment in preference to the operation, but as an instance of success, which may give a ground for reasonable hope in cases where we are restricted from the use of more prompt and more certain means of relief.

IV.—*Case of Cynanche Laryngea*; by Dr. ARNOLD, of Stamford. Communicated by Dr. BAILLIE.

This is a well-marked instance of the disease yielding to a judicious and active treatment, by general and local abstraction of blood, and a free exhibition of submuriate of mercury; assisted by enemata and some other auxiliaries.

V.—*Some Observations on the Cure of Hydrocele of the Tunica Vaginalis Testis, without procuring an Obliteration of the Sac*; by KINDER WOOD, Esq. Member of the Royal College of Surgeons, and Surgeon in Oldham.

Mr. Wood, in this paper, relates some cases followed by a success so marked as to claim for his treatment, in our opinion, the deliberate consideration of the profession. The method which has hitherto been employed for

what is termed the radical cure of hydrocele, certainly does not leave the parts in a state so nearly natural as the means here recommended; and, if a more enlarged use establish the same results, we must consider the practice of this part of surgery importantly improved. Mr. Wood's treatment appears, as far as we can judge from his cases, to restore the lost balance of action betwixt the exhalant and absorbent systems of the part, without procuring, as in the ordinary mode, an abolition of the secreting surfaces. This operation is a slight extension of the palliative one performed simply for the evacuation of the fluid. He makes a puncture with a broad-shouldered lancet, which, from its form, produces a more extensive incision in the outer integuments than in the tunica vaginalis. After the escape of the fluid, a small portion of the membrane presents at the orifice: this he engages with a small dissecting hook, and, bringing it forward, removes it with a pair of scissors. The wound is closed with adhesive plaster, the parts supported, and quietude enjoined. In the cases here recorded, inflammation appears to have been induced; but, from the accompanying symptoms, of moderate character, and not followed by an adhesion of the two membranes. This results, no doubt, from there not being two inflamed surfaces in opposition, as is the case when an irritating fluid is thrown into the cavity, as in the ordinary treatment. The local inconvenience and general disturbance supervening on the operation were so slight as to leave the patients very shortly in a state of entire exemption from suffering of every kind connected with the particular affection. One instance is recited, wherein Mr. Wood operated, against his judgment, on a patient labouring under pulmonic disease; and here the symptoms ran somewhat high, but less formidable, he thinks, than might have been anticipated from any other plan of operation, and the termination was very favourable. It is worthy of remark, too, that this patient, with the subsidence of the symptoms incurred by the operation, was relieved from the previously-existing disease of the chest.

VI.—*Case of Hereditary Ichthyosis*; by P. J. MARTIN, Esq. of Pulborough, in Sussex. Communicated by Mr. CLINE.

This cutaneous affection, occurring in a mother and child, forms the subject of two well-executed plates, that afford a good idea of the appearance of the morbid surface. This condition began to manifest itself in both subjects when about three months old, and is extended nearly over the whole skin, except that of the head and neck. It began without any marked constitutional derangement, and exists

independently of observable disease of the system. But, as Mr. Martin remarks, these individual cases are more curious from a display of the hereditary tendency of the affection, than useful as affording any practical deduction. They hold at present an unprofitable, though not an unmerited, place in the records of anomalous aberrations from healthy structure.

VII.—*Experiments on the Transfusion of Blood by the Syringe*; by JAMES BLUNDELL, M.D. Lecturer on Physiology at Guy's Hospital. Communicated by Mr. CLINE.

Dr. Blundell has been led to institute experiments on the disused practice of transfusion of blood, from witnessing the death of a woman from uterine hæmorrhage; the results of which are interesting in a physiological point of view, and we think in some instances may contribute to the preservation of human life. The facts developed in this enquiry are—that blood, exposed for a short time in an open vessel, and then transmitted by means of a syringe into the veins of an animal exhausted by hæmorrhage, is still fitted for the purpose of resuscitation and of maintaining vital action. The time which blood may be allowed to stagnate in the cup, without destroying its power of restoring vitality, seems to vary with the difference of coagulating tendency in the blood of different animals. Arterial blood of the same animal may be transfused into the veins by the syringe, continuing the operation so long as to bring the whole quantity of circulating blood several times through the apparatus; and this without apparent detriment. It seems probable, from these experiments, and others alluded to, performed by Mr. Goodridge and Dr. Leacock, of Barbadoes, that the blood of one species of animal cannot be safely substituted for that of another; although it appears that this exchange has been made with impunity. Venous blood has the same power of restoring life as arterial. Air (atmospherical and from the lungs), water, and even weak wine, were injected in these experiments on dogs, in small quantities, without serious inconvenience to the subject. The animals operated on have been suffered to lie for some seconds in a state of apparent death before injection was commenced, and have been immediately restored. From all these circumstances, Dr. Blundell infers that we might, with every prospect of advantage and safety, transfuse, by means of the syringe, human venous blood into the veins of a patient dying by any sudden evacuation of this vital fluid. In cases of such desperate character, and where the means could be promptly

commanded, we should certainly consider it a duty to resort to the experiment. The apparatus used by Dr. Blundell is ingeniously adapted to the purpose; but an intelligible description of it could not be conveyed without a graphical representation.

VIII.—*History of the Progress and Enquiry into the Causes of the Yellow Fever, as it appeared in the Island of Antigua in the Year 1816*; by A. MUSGRAVE, M.D. of Antigua. Communicated by Dr. FERGUSON, Inspector of Hospitals.

For some time preceding the month of June, 1816, Dr. Musgrave says that the island of Antigua was as exempt from disease as one of equal population could well be expected to be under any circumstances, or in any variety of climate. A few sporadic cases of fever occurred at intervals, but not fatal, and in general they readily yielded to the treatment adopted. These cases appear to have been mostly resulting from the operation of ordinary exciting causes of fever,—exposure to alternations of temperature; which in a tropical climate are more intense, and commonly applied to subjects powerfully predisposed to yield to their influence.

On the 18th of June, 1816, two seamen were admitted into the parochial Hospital, situated on Rat-Island, labouring under symptoms of fever. One had but just become affected with the disease, the other was on the close of the third day. Both these patients, from the state of their symptoms at this time, failed to impress Dr. Musgrave, less familiar with the fever of the climate, with apprehensions as to the nature of their malady: his partner, Dr. Daniel, however, soon after recognized in them circumstances of an alarming character, which led him to form an unfavourable prognosis respecting it. They both died on the fifth day, after manifesting all the symptoms which are usually marked as characteristic of yellow fever.

These cases appear to have been the first decided instances of the ensuing prevalent epidemic: it therefore becomes important, for the adjustment of some still discordant opinions upon the nature of the disease, to ascertain, with all possible accuracy, the peculiar circumstances under which these two individuals had acquired the malady. These two seamen arrived in a ship, from Charlestown, on the 25th of April, 1816; at which time the crew was perfectly healthy. They were discharged on the 5th of May following. On being received into the hospital, they were reported to be out of employ, and to have been taken ill at the house of a

woman of colour, in the north-west part of the town called the Point, where they had boarded for some weeks. Succeeding instances of the disease occurred, originating in the same quarter of the town; and for some time they were confined to it. They successively spread over other parts of the town and vicinage: with the localities of this first nidus of the distemper, it is interesting, therefore, to become acquainted.

"The houses there are not merely exposed to currents of air which have previously traversed a marshy surface, but they are absolutely standing in a swamp. Three or four streets cannot with safety be passed on horseback; and the path which those on foot are obliged to select with the utmost circumspection, is afforded only by artificial ground. The house of the coloured woman, from which the two first cases emanated on the 18th of June, forms one of a row terminating the town to the north-west. From the very threshold of her door, stretching to the northward and north-west, an extent of marshy ground proceeds for nearly two miles, and also to the north-east for a considerable, though not so great a distance: and, as I have already stated that three or four streets to the southward of this are absolutely built in a swamp, the inference is plain, that, from whatever quarter the wind may blow, it will bring with it a noxious impregnation; nay, from the imperfect manner in which these huts are constructed, miasmata must spring up from beneath the very beds they contain. When we reflect on these indisputable facts, we are constrained to wonder, not that an epidemic should have originated there in 1816, but that every revolving year does not bring with it melancholy examples of the baneful nature of the exhalations which we should suppose are necessarily generated in such a situation. In fact, although nothing so extensive is to be met with elsewhere, every part of St. John's may be deemed (with few exceptions) more or less exposed to the effects of marsh effluvia. Swampy tracts are seen just beyond the southern outskirts of the town, and to the eastward they are abundant at some little distance, although a good deal intercepted by what is called Government-hill."

These facts surely speak very pointedly as to the origin of the disease, which we cannot hesitate to consider as endemic. As a proof, too, that the district abounded at this season with the noxious principles universally incident to similar localities, the natives and those whose constitutions, by long residence, were assimilated to the climate, were more than ordinarily obnoxious to attacks of intermittent fever. One cause, therefore, of febrile disease was here manifestly in full activity; but it encountered, in the different classes of its victims, habits and predispositions of obviously different characters, and its effects seem to have experienced an uniformly correspondent modification. The

testimony of all the facts comprised in Dr. Musgrave's communication is decidedly adverse to the suspicion that the epidemic was of foreign origin: this, therefore, forces upon us a reiterated conviction, that in the peculiarities of the district we are to search for the sources of the disease. Conformable to the experience of other observers, in this instance, those recently arrived from another climate, those who had not been long settled here, or even strangers from contiguous islands, were most susceptible of the influences exciting yellow fever: the native inhabitants were exempt. When the disease had apparently suspended its course, if an European chanced to arrive, even from another island, he was usually speedily attacked.

With respect to the contagious nature of yellow fever, Dr. Musgrave is very decidedly a disbeliever; and he is maintained in this opinion, he says, by all the practitioners of longer experience in the disease than himself, with whom he has conversed.

The evidences adduced on this point are strong; amongst them we should be disposed to rank the following as conclusive.

“His Majesty's ship *Brazen* being detained in our harbour on some duty, her crew became dreadfully unhealthy; and, at length the surgeon himself being confined, in November it became necessary to land the sick. The naval hospital at English Harbour having been closed on breaking up the establishment there, an order was given for their admission into the military hospital at St. John's; and thirteen or fourteen cases were accordingly placed under my care, as acting medical officer at this port. They proved as malignant in their progress as cases could possibly be. Several privates of the 4th West-India regiment were in a contiguous ward,* and in so small an establishment I could not have prevented, had I been most anxious to do so, the freest communication between them and the seamen. The bedding, &c. covered with black vomit and hæmorrhages from those who died with these fatal symptoms, (although every precaution was taken to ensure cleanliness,) were not destroyed; and yet, neither during the time the patients continued there, nor after the hospital was cleared of them (now upwards of three months), has one individual, who was in attendance, or in any manner connected with the detachment at the barrack, laboured under a disease at all resembling yellow fever. Indeed, from what I saw in that and other instances, I feel convinced that the disease cannot be propagated even by sub-

* The wards of that hospital had no doors; the communication, therefore, was perfectly open, and the intercourse unrestrained.

- jects brought from on ship-board, whence the most plausible arguments are derived in favour of contagion."

— "Nay, I once saw the wife of a sailor stowed into the same cot in which her husband lay with this fever in its worst form, and yet escape, under every predisposition that could be conceived in a full-blooded and unassimilated subject.

These instances bear strongly on the point, and others in confirmation are likewise adduced, which appear to prove the noncontagious nature of the original disease; but it is justly remarked, the undue accumulation of human effluvia in a crowded ship or prison will, in the West-Indies as well as in other climates, prove productive of temporary pestilence; but this cannot be allowed as an evidence of the contagious character of the disease in question. During the course of the epidemic of Antigua, it was demonstrated that one attack of this fever has no preservative power against subsequent ones. Several instances of a second occurrence of the fever in the same individual, and that frequently fatal, came under the immediate cognizance of Dr. Musgrave in the space of a few months.

The diagnosis of this disease, in the earlier stages or in its milder forms, is indistinct, and, where it assumes a more decided character, is commonly useless; as the symptoms which are usually considered as distinctive of the fever rarely manifest themselves but to the extinction of hope. The black vomit is not an invariable attendant. Dr. Musgrave remarks, that, when the stomach is the organ most affected by the disease, irritability of this viscus, with rejection of its contents, accompanies the progress, terminating in the black vomit. The intellectual functions in these cases are little disturbed. When the brain is the assailed organ, the stomach retains its tranquillity, and coma supervenes. The tinge of the skin, Dr. Musgrave says, is not constant in its occurrence, nor uniform in its intensity. It is commonly deeper in native or assimilated constitutions, approaching an orange; and paler in new-comers, resembling more the tint of a pale lemon. This, as a diagnostic mark betwixt the concentrated, continued, and remittent forms of the disease, as it has been attempted to establish, Dr. Musgrave says, is almost as futile as the black vomit.

"It does not always occur in either form; and, when it does, only serves to mark the intensity of the disease and its degree of danger. In a word, it is rather a means of prognosis than of diagnosis."

A marked difference of opinion subsists betwixt Dr. Musgrave and Mr. Pym on an important point of practice, and which, in the opinion of the latter gentleman, is subser-

vient to the distinction betwixt yellow fever and the bilious remittent. This is on blood-letting; which, according to Mr. Pym, is of service in the latter affection, as he distinguishes them, and quite inadmissible in the former. Dr. Musgrave, denying the distinctive existence of two diseases, says, that in both forms they found blood-letting their sheet-anchor.

In proof of the identity of yellow fever with the intermittent fever from marsh miasmata, instances are given of the disease making its attack in situations peculiarly obnoxious to marsh effluvia, and remote from all source of contagion, in a regular intermittent type, lapsing into its continued form, and running to its fatal close with all the aggravated characteristics of the epidemic. It has been observed, too, breaking from its continued form into regular paroxysms of intermission. During the prevalence of this epidemic in Antigua, the black and coloured population was more than ordinarily infested, in situations which are notoriously the seat of such disease, with obstinate intermittents. Dr. Musgrave sums up his opinion on the nature of the epidemic in these words:

“In fine, so firmly have these, and other facts which I cannot at this moment distinctly call to mind, impressed me with the conviction that intermittent, remittent, and bulam or yellow fever, differ but in degree; and that they are only modifications of effect from the same cause, the modifications being influenced by the degree of concentration of the deleterious miasmata, and the varieties of assimilation, &c. in the subjects on which they operate; that it is a matter of the most serious surprise to me how any diversity of sentiment could ever have obtained upon the subject.”

Some interesting remarks on particular symptoms, and on the general history of the disease, occur in this paper, which our limits preclude us from dwelling upon. The treatment which Dr. Musgrave's practice induced the chief dependence on, was a free detraction of blood in the very early stage of fever, abstaining cautiously from such depletion where the disease had existed for eight-and-forty hours; the bowels were cleared out with calomel and jalap, and kept regularly evacuated during the course of the complaint, but in this, too, caution is requisite, lest they be excited to an excessive and fatally debilitating catharsis. Cold ablutions, perseveringly applied, were found not so distressing to the patient, and equally impressive on the fever, as the cold affusion. Where a sense of chilliness contra-indicated the application of cold to the surface, tepid ablutions were productive of benefit. The circulating mass being diminished, and the intestinal canal cleared out, the cinchona, without

waiting for a remission, was directly administered. By waiting till the stomach showed signs of irritability, the chance was thrown away of employing a highly valuable remedy.

When the cinchona in powder oppressed the stomach, an infusion of it in combination with serpentaria, to which a proportion of the sp. æther. nitros. was added, proved in general a form of admirable efficacy. Blisters to counteract local determination, and in the latter stages employed more extensively as stimulants, were useful adjuvants. Dr. M. says, that he could not avoid remarking that no individual died, in whom strangury supervened on their use; and he has since understood that the most beneficial power has been lately ascribed to them, depending on the absorption of the cantharides. Of the specific action of mercury on the disease, Dr. Musgrave professes to have little decided information. Though they had adopted in some of the later cases of the epidemic, on the commendation of some practitioners in the public service, they did not rely on it to the exclusion of those measures which they had found most generally efficacious. It appeared to have been advantageously used in some instances of the remittent form, where bleeding in the first instance had failed to subdue the urgent symptoms. Dr. M. says, he has satisfied himself of the less degree of irritation produced on both the stomach and bowels by the employment of large than of small doses of calomel.

(To be concluded in our next.)

Pathological and Surgical Observations on Diseases of the Joints; by B. C. BRODIE, F.R.S. assistant Surgeon to St. George's Hospital, and Lecturer on the Theory and Practice of Surgery. 8vo. pp. 329. London, 1818.

WHEN our readers have considered the nature of the office and duties of a critical reviewer, and the labours and anxious sensations with which the exertion of them is generally accompanied, they may form an adequate idea of the pleasure we experience on taking up the present work of Mr. Brodie: for we are not only relieved, on this occasion, from the more arduous part of our inquisitorial functions—that of passing sentence on the merits of an author; but from those also which must be deduced from historical research, and are intended to aid the reflections and facilitate the enquiries of the student respecting the subject under consi-

deration. The opinion universally expressed on the value of Mr. Brodie's Remarks on Diseases of the Joints, published some years since, exempts us from the necessity of the former; and the originality of his Observations renders the latter of but little real utility. The space we can devote to this work will, therefore, be occupied by a mere analysis of what appears to be the most interesting of the subjects of which it treats.

Mr. Brodie divides diseases of the joints into the following species:—*Inflammation of the synovial membrane: ulceration of the synovial membrane: cases in which the synovial membrane has undergone a morbid change of structure: ulceration of the cartilages of the joints: and scrofulous disease of the joints, having its origin in the cancellous structure of the bones.* After some general anatomical and pathological remarks on the different structures which enter into the formation of the joints, the author proceeds to treat of inflammation of the synovial membrane, when it occurs as a primary affection.

"Although no period of life," he observes, "is altogether exempt from this disease, it does not occur equally in persons of all ages. It very seldom attacks young children; becomes less rare as they approach the age of puberty; and is very frequent in adult persons. This is the reverse of what happens with respect to some of the other diseases to which the joints are liable; and a knowledge of these circumstances will be found of some importance to the surgeon, in assisting him to form a ready diagnosis."

This disease, the author continues to remark, may take place as a symptom of a constitutional affection, from the use or abuse of mercury, &c. In other cases it is entirely local, and is sometimes apparently induced from a sprain, but more commonly from cold; and thence those joints but thinly covered by integuments, are most frequently thus affected. It occurs in different degrees of intensity, but generally in a slow or chronic form; sometimes continuing for weeks or months; and, with occasional recoveries and relapses, may harass the patient during several successive years.

The symptoms are pain in the joint, principally referred to one spot: this usually continues to increase during the first week or ten days, when it is at its height. In the course of one or two days after the commencement of pain, the joint may be observed to be swollen, which arises, in the early stage of the disease, entirely from the collection of a fluid in its cavity; and, in the more superficial joints, an undulation of the fluid may be felt. After the inflammation has existed for some time, the undulation is less distinct, in

consequence of the synovial membrane having become thickened from effusion of coagulable lymph. As the swelling consists more of solid substance, the natural mobility of the joint is in a greater degree impaired. The form of the swelling is not that of the articulating ends of the bones: it arises chiefly from the distended state of the synovial membrane, and varies in different joints according as that membrane is more or less perfectly surrounded by ligaments and tendons.

After the inflammation has subsided, the fluid is absorbed, and in many instances the joint regains its natural figure and mobility; but, in the majority of cases, stiffness and swelling remain: the swelling sometimes has the same form which it possessed while the inflammation existed; at others, it has that of the articulating ends of the bones, or nearly that of the joint in a natural state. The former may, perhaps, arise from the inner surface of the synovial membrane having become lined with coagulated lymph; the latter from a general thickening of its structure.

The patient is liable to suffer relapses of the disease from the impression of cold, inordinate exercise, &c.; and sometimes a slight degree of inflammation lingering in the parts will extend to the other structures of the joint, and not unfrequently finally induce ulceration of the cartilage covering the surfaces of the bones. The latter species of disease may be distinguished from another affection, to be noticed hereafter, by the history of the malady.

When the inflammation is of the more acute kind, the swelling takes place immediately after, or at the same instant with, the first attack of pain: the pain is also very severe, particularly on the motion of the parts; and it is accompanied with some degree of symptomatic fever. Mr. Brodie continues to observe, that the boundaries of acute and chronic inflammation do not admit of being defined; but that those terms may designate the extremes of variations of form, which should be attended to in practice, as requiring somewhat different modes of treatment.

The above is a slight sketch from the author's account of the pathology and symptoms of inflammation of the synovial membrane: we shall now treat, in the same manner, of the curative measures adapted for that disease. When it appears to have arisen from a protracted or ill-conducted course of mercury, sarsaparilla may be given with some advantage. Opium conjoined with diaphoretics, the colchicum autumnale, &c. are advisable when it appears to be connected with rheumatism; and in some instances, when several joints are affected at the same time, much benefit is

derived from moderate doses of some mercurial preparation. Topical remedies are, however, in all cases, of most importance.

In the more acute forms of the disease, leeches should be applied in the neighbourhood of the part; and, if there be much symptomatic fever, blood may be drawn from the arm. Saline purgatives and diaphoretics; and cold evaporating lotions, when there is not great tension of the parts, should also be employed.

Perfect quietude of the limb is necessary; and, in the chronic form of the inflammation, after having removed the more urgent symptoms by the abstraction of blood by cupping-glasses, and the use of cold lotions, vesicatories may be applied; which should be repeated in as rapid succession as the period required for the healing of the blister will permit: this mode is more effectual than maintaining an ulcerated surface by means of the savine cerate. The vesicatories have been found more beneficial when applied at a short distance from the joint; acting thus as counter-irritants, without producing immediate excitation of the inflamed parts. The same measures are most efficacious for the removal of the diseased state of the membrane consequent on the inflammation. When it is in a great measure relieved, a moderate degree of exercise of the joint is rather beneficial than otherwise. It will be useful, in this stage of the disease, to produce irritation of the skin covering the joint by stimulating liniments, or the ointment of tartarized antimony. The application generally directed by Mr. Brodie is composed of sulphuric acid, with four, five, or more, times its quantity of olive oil. Hospital patients, in general, whose skin is thick and somewhat callous, will bear it in the proportions of one part of the former to three of the latter. The effect of this liniment is to excite some degree of inflammation of the skin: the cuticle becomes of a brown colour, and separates in thick, broad scales. Issues and setons are of no service, except when it appears that a secondary disease has begun to take place, in the form of ulceration of the cartilages. When swelling and stiffness remain after inflammation has subsided, free exercise of the limb and friction over the joint may be employed with advantage.

Mr. Brodie relates several cases where inflammation of the synovial membranes of different joints appeared as a concatenation in the transition of diseases of the membranes from one part of the body to another; and which, in some degree, illustrate the beautiful doctrines of BORDEU respecting those structures.

One gentleman had eight attacks of inflammation of the synovial membranes.

"The first took place when he was under twenty years of age, the others at various intervals in the course of the ensuing seventeen years. In one of them, the first symptom was inflammation of the urethra, attended with a discharge of pus, which could not rationally be attributed to venereal infection. This was followed by purulent ophthalmia; and that, by inflammation of the synovial membranes. In three of the attacks, a purulent ophthalmia was the first symptom; which was followed by inflammation and discharge of matter from the urethra; and then the synovial membranes became affected. In the other four attacks, the affection of the synovial membranes took place without any preceding inflammation of the eye or urethra. The disease was not confined to the synovial membranes of the joints, but those of the bursæ mucosæ were inflamed also. In some of the attacks, the muscles of the abdomen were painful and tender, and subject to spasmodic contractions; and there was occasionally an impediment to breathing, which seemed to arise from a similar affection of the diaphragm. The acute form of the disease, in this case, lasted from six weeks to three months; but nearly a year elapsed before the use of the limbs was perfectly restored. The last attack began in July, 1817; and in the beginning of May, 1818, while he was still lame, he was seized with a very violent inflammation of the sclerotic coat and iris of one eye, which was subdued by very copious blood-letting and the exhibition of mercury."

Mr. Brodie has witnessed two instances of death ensuing from *ulceration of the synovial membrane*, occurring as a primary affection.

"A young lady, nine years of age, being at play, on the 1st of January, 1808, fell and wrenched her hip. She experienced so little uneasiness, that she walked out on that day as usual. In the evening she went to a dance; but while there was seized with rigor, was carried home, and put to bed. Next morning she was much indisposed, and complained of pain in the thigh and knee: on the following day she had pain in the hip, and was very feverish. These symptoms continued; she became delirious; and she died just a week from the time of the accident.

"On inspecting the body on the following day, the viscera of the thorax and abdomen were found in a perfectly healthy state. The hip-joint on the side of the injury contained about half an ounce of dark-coloured pus; and the synovial membrane, where it was reflected over the neck of the femur, was destroyed by ulceration for about the extent of a shilling.

"A middle-aged man, who had met with a contusion of one shoulder, was admitted into St George's Hospital in the winter of 1812. He complained of pain and tenderness of the shoulder, and a very slight degree of swelling was observable; but his prin-

cial disease was a fever, resembling typhus in its character, of which he died in a few days after his admission.

"On inspecting the body, about half an ounce of thin pus was found in the shoulder-joint. The synovial membrane bore marks of general inflammation, and in one spot, where it was reflected over the neck of the os brachii, it was destroyed by ulceration for about the extent of a sixpence."

These cases, the author remarks, form by no means solitary examples: every surgeon will be able to call to mind numerous other instances, which show that an impression made upon a small part of the nervous system may derange, and ultimately destroy, the functions of the whole animal economy.

Numerous instances have occurred to his observation, where the synovial membrane had undergone a *peculiar morbid change of structure*. In these cases, he observes, the morbid action evidently originates in the synovial membrane, which loses its natural organization, and becomes converted into a thick pulpy substance, of a light-brown, and sometimes of a reddish-brown, colour, intersected by white membranous lines. As the disease advances, it involves all the parts of which the joint is composed, producing ulceration of the cartilages, caries of the bones, wasting of the ligaments, and abscesses in different places.

"This disease," Mr. Brodie remarks, "is peculiar to the synovial membranes; at least, I have never met with it in any other part of the body: but it belongs to the same order with tubercles of the lungs, schirrus of the breast, the medullary sarcoma or fungus hæmatodes of the testicle, and numerous other diseases, in which the natural structure of the affected organ is destroyed, and a new and different structure is added in its place. To these it also bears a near resemblance in its progress. Thus, tubercles of the lungs, in the first instance, occupy the vesicular and interlobular substance; but ultimately they inflame and ulcerate, abscesses form in them, and then the pleura, bronchiæ, and other contiguous parts, become affected.

"In every case in which I have had it in my power to watch its progress, the complaint has been slow, and sometimes has remained in an indolent state during a very long period; but ultimately it has always terminated in the destruction of the joint."

It is rarely met with except in the knee. Mr. Brodie has never seen it in the hip or shoulder. It is probable, he remarks, that the influence of external cold may operate as one of the causes by which it is produced; and this explains why it occurs frequently in the knee, and seldom in the deep-seated articulations.

It generally affects persons who are not much past the age

of puberty; and, for the most part, can be traced to no evident cause, though it sometimes appears to take place in consequence of repeated attacks of inflammation. The following is Mr. Brodie's account of the symptoms and progress of this malady:—

“ In the origin of this disease, there is a slight degree of stiffness and tumefaction, without pain, and producing only the most trifling inconvenience. These symptoms gradually increase. In the greater number of cases, the joint at last scarcely admits of the smallest motion; but in a few cases it always retains a certain degree of mobility. The form of the swelling bears some resemblance to that in cases of inflammation of the synovial membrane, but it is less regular. The swelling is soft and elastic, and gives to the hand a sensation as if it contained fluid. If only one hand be employed in making the examination, the deception may be complete, and the most experienced surgeon may be led to suppose that there is fluid in the joint, when there is none: but if both hands are employed, one on each side, the absence of fluid is distinguished by the want of fluctuation.

“ The patient experiences little or no pain, until abscesses begin to form and the cartilages ulcerate; and even then the pain is, in many instances, not so severe as where the ulceration of the cartilages occurs as a primary disease; and the abscesses heal more readily, and discharge a smaller quantity of pus, than in cases of this last description. At this period the patient becomes affected with hectic fever, loses his flesh, and gradually sinks, unless the limb be removed by an operation.

“ The progress of this disease varies in different cases. In general, one or two years elapse before it reaches to its most advanced stage; but sometimes the period is much longer, and occasionally it becomes indolent, so that it remains many months without any sensible alteration.

“ The diagnosis of this disease is seldom difficult. The gradual progress of the enlargement, and stiffness of the joint without pain, and the soft elastic swelling without fluctuation, in the majority of cases, enable us to distinguish it readily from all the other morbid affections to which the joints are liable.”

This is equally incurable with the other instances of morbid change of structure to which the author has alluded. All the various measures he has tried, or seen other surgeons employ, have only led him to form the above conclusion. The progress of the disease may be somewhat checked by means of rest and cold lotions; and, when there is considerable pain in consequence of the cartilages having begun to ulcerate, some benefit has been derived from warm fomentations and poultices; but no method with which he is acquainted is capable of doing more than checking the progress, and somewhat relieving the symptoms, of the

complaint. In every instance where he has had an opportunity to witness its termination, ulceration of the cartilages, the formation of abscesses in the cavity of the joint, and the consequent disturbance of the patient's health, have rendered amputation of the limb the only apparent mean of preserving his life. At this stage of the disease the surgeon must urge the operation; but, at an earlier period, it may be a matter of choice to the patient, whether or not he will live with the incumbrance of the useless limb until its removal is indispensable.

The chapter on *ulceration of the cartilages of the joints* will not admit of regular analysis. There are so many circumstances attending this disease, the knowledge of which is of such high importance, that the observations of Mr. Brodie, although related with the utmost conciseness, occupy a considerable proportion of the space of this volume. Our account of it must, therefore, be very general, and such as will rather excite such of our readers, as may not have already studied it, to the perusal of the work itself.

"In the cases which have been related," says Mr. Brodie, "the ulceration of the cartilages of the diseased joints was a secondary affection, the consequence of a morbid action originating in the neighbouring soft parts. There are other cases, and those not of rare occurrence, in which the ulceration of the articular cartilages exists as a primary disease.

"When the ulceration of the cartilage occurs in the superficial joints, it constitutes one of the diseases which have been known by the name of white-swelling. From those which I have met with, I am led to conclude that, when it takes place in the hip, it is this disease which has been variously designated by writers—the 'morbus coxarius,' the 'disease of the hip,' the 'scrofulous hip,' the 'scrofulous caries of the hip-joint.' At least, it is to this disease that these names have been principally applied; though, probably, other morbid affections have been occasionally confounded with it."

The following is a sketch of the different stages and general progress of this disease:—1. Ulceration takes place in the cartilages; generally that of the acetabulum first, and in that of the head of the femur afterwards: sometimes it begins in both at the same time.—2. The ulceration extends to the bones, which become carious; the head of the femur is diminished in size, and the acetabulum is rendered deeper and wider.—3. Abscess forms in the joint, which after some time makes its way, by ulceration, through the synovial membrane and capsular ligament, into the thigh, nates, or even through the bottom of the acetabulum into the pelvis.—4. In consequence of the abscess, the synovial membrane

and capsular ligament become inflamed and thickened: the muscles are altered in structure; sinuses are formed in various parts; and at last all the soft parts are blended together into one confused mass, resembling the parietes of an ordinary abscess.

"In some cases," continues the author, "the ulceration of the cartilage begins on that surface which is connected with the bone; and, from having observed this circumstance, I was led at first to adopt an opinion, which I have heard stated to have been that of Mr. Hunter, and which appeared to be warranted by the small degree of vascularity which cartilage possesses,—that ulceration of it takes place, not from the action of its own vessels, but in consequence of its being acted on by the vessels of the bone to which it is connected. I afterwards found that, in many instances, previously to ulceration, the cartilage undergoes a remarkable change of texture, becoming soft, and assuming a fibrous appearance: I was thence led to conclude that this opinion is not altogether correct, and I since witnessed two cases which appeared to show that cartilage, as well as other parts, is capable of ulcerating from the action of its own vessels."

Ulceration of the articular cartilages occurs at any period of life, but principally in children or in adults under the middle age. It is generally confined to a single joint, most frequently that of the hip. Sometimes the patient traces its origin to a local injury; but, for the most part, no cause can be assigned for the disease, and often that to which it is attributed is more imaginary than real.

When the hip is affected, the only symptoms in the early stages are—trifling pain, and a slight degree of lameness in the lower limb. The pain a good deal resembles rheumatism, having no certain seat; being referred to different parts of the limb in different individuals, and even in the same person at different periods. As the pain increases in intensity, it is more confined in its situation. In the greater number of instances it is referred to the hip and the knee also, and the pain of the knee is generally the most severe of the two. The pain is much aggravated by motion of the joint, particularly by whatever occasions pressure of the ulcerated cartilaginous surfaces against each other. Soon after the commencement of pain, the parts about the hip-joint become tender. The absorbent glands in the groin sometimes become enlarged. The pain about the knee, although originating from sympathy, is frequently at length accompanied with swelling and inflammation.

When the disease has existed for some time, the nates undergo a remarkable alteration in their form: they become wasted and less prominent; so that, instead of their usual

convexity, they have a flattened appearance, and seem wider than those of the otherside; and, in some few cases, in the advanced stage of the disease, they are really wider, in consequence of the acetabulum being filled with coagulated lymph and matter, and the head of the femur being pushed out of its natural situation. Another symptom which occurs in this disease is an alteration in the length of the limb. 1. In the early stage of the complaint, the patient often imagines the limb of the affected side to be longer than the other: but this is only apparent, and is produced by the position of the pelvis being altered in such a way that the crista of the one ilium is depressed below the level of that of the other; which arises from the posture in which the patient places himself when he stands erect. He supports the weight of his body on the sound limb, the hip and knee of which are, in consequence, maintained in a state of extension; at the same time that the opposite limb is inclined forward, and the foot placed on the ground considerably anterior to the other; not for the purpose of supporting the superincumbent weight, but to keep the person steady and preserve its equilibrium: this cannot be done without the pelvis being depressed on the same side.—2. In a few cases, where the patient is in the erect position, it may be observed that the foot of the affected limb is not inclined more forward than the other, but that the toes only are in contact with the ground, and the heel raised, at the same time that the knee is a little bent. This answers the same purpose, that of enabling the patient to throw the weight of his body on the other foot; but it produces an inclination of the pelvis in the opposite direction to that before described. The crista of the ilium is higher on the affected than on the sound side in these instances, and there is an apparent shortening of the diseased limb.—3. In the most advanced stage of the disease, when the head of the femur has been destroyed by ulceration, the muscles draw the bone upwards, and there is real shortening of the limb: the foot may here be rotated inwards, but, if left to itself, it is generally turned outwards.—4. In other cases the limb is shortened; the thigh is bent forwards; the toes are turned inwards, and do not admit of being turned outwards; and there is every symptom of dislocation of the hip upwards and outwards, which really takes place in consequence of the cavity of the acetabulum having become filled with coagulated lymph and matter, and the round ligament destroyed by ulceration.

The shortening of the limb, which takes place in the advanced stage of the disease, is usually, but not always, the precursor of abscess. The formation of matter is also indi-

- cated by an aggravation of pain, by greater wasting of the limb, and the thigh becoming more bent forward, and being incapable of extension without causing a great and almost intolerable increase of the sufferings of the patient.

After some observations on the varieties in the character of the disease when it occurs in other joints, Mr. Brodie enters on the consideration of the mode of treatment. The keeping the limb in a state of perfect quietude is one of the first and most important circumstances to be attended to. It is in this malady that caustic issues, setons, and blisters kept open with savine cerate, have been productive of so much benefit.

When the cartilages of the hip-joint are affected, the patient should, in the first instance, be confined to a couch, if not to his bed; and, if the disease be far advanced, the limb should be supported by pillows, so as to favour the production of ankylosis, by allowing it to vary as little as possible from one position. In young children, blisters are capable of affording complete relief: they may be applied on the nates, round the great trochanter, and in the groin; and kept open by savine cerate. In children above the age of eight or ten years, and in adults, the same treatment is useful in the very early stage of the disease; but, in the more advanced periods, issues made with caustic are more efficacious. The hollow behind the great trochanter of the femur is, in many respects, the most convenient situation for the application of the caustic; but, in some cases, the application of it on the outside of the hip is attended with better effects; perhaps from the skin in this situation being nearer to the joint than that of the former. An ulcer may be made with pure potash, half an inch in breadth and two inches in length, in the adult, behind the great trochanter; and, if this fail to give relief, a second, of a smaller size, may be produced in the situation of the anterior edge of the tensor vaginæ femoris muscle. The good derived from the issue does not seem to be in proportion to the quantity of pus discharged from its surface. From the observation having been frequently made, that more abatement of the symptoms is produced during the first few days from the application of the caustic than in several weeks afterwards, Mr. Brodie was led to consider that keeping the issue open, by rubbing its surface with pure potash, or sulphate of copper, two or three times a-week, would be more beneficial than the use of beans for this purpose. An extensive trial of both methods has appeared to demonstrate the superior efficacy of the former to that of the latter method. The pain produced by the use of the caustic is very considerable; but the subse-

quent relief of the symptoms is such, that patients have frequently been found to make the application themselves.

These measures, in general, produce an immediate alleviation of the symptoms; and, (provided that suppuration has not taken place,) if the patient continues in a state of quietude, the pain in general entirely subsides after the lapse of a few weeks. When the pain is exceedingly severe, and there is reason to believe that the ulcerated surfaces are in a state of much inflammation in consequence of the joint having been exercised, bleeding and the warm-bath may be had recourse to. A vesicatory may also be applied to the groin. The production of a blister on the knee or thigh will often produce considerable, and sometimes entire, relief of the pain which is referred to those parts from sympathy with the affection of the hip. The production of counter-irritation in the groin has been found particularly beneficial; but there are many objections to the application of caustic, which do not apply to the introduction of a seton in this situation.

“I was led to adopt this mode of treatment some years ago,” says Mr. Brodie, “partly from observing that the skin of the groin is nearer to the hip-joint than the skin elsewhere; partly from an expectation (though not a very confident one) that the making a seton over the trunk of the anterior crural nerve might be particularly calculated to relieve the pain referred to those parts to which the branches of that nerve are distributed. The results of this practice more than realized whatever hopes I had entertained of its success. In many cases the seton occasioned very speedily a complete relief of the pain: in other cases, indeed, it failed to produce the like good effects; but these cases have borne only a small proportion to those in which it has succeeded. On the whole, I am led to conclude that, where the pain is very severe, the seton in the groin is more calculated to afford immediate relief than the caustic issue; but that it is not equally efficacious in checking the progress of the disease as in lessening the violence of its symptoms; and that the caustic issue can be better depended on for the production of a cure.”

After some observations on the modification of the above plan of treatment that may be advisable when the disease affects other joints, Mr. Brodie proceeds to the consideration of the treatment of the abscess which ensues from it in its latter stages. He first adduces some remarks on the various measures that have been proposed for the treatment of abscesses in general, and how far they are applicable to that which forms the subject of the present observations. Evacuating the matter by means of a valvular opening, as recommended by Mr. Abernethy for lumbar abscess,—emetics,

—electricity,—and pressure, have not been found to produce the good effects on this as on other occasions. Early puncture of the abscess is certainly not advisable; the opening of it should, if possible, be avoided until the symptoms have been somewhat alleviated by the means above directed. When it is considered proper to evacuate the matter,

“—an opening should be made with an abscess lancet, and the limb wrapped in flannel wrung out of hot water, which may be continued as long as the matter continues to flow of itself. In general, when a certain quantity has escaped, the discharge ceases; the orifice heals, and the puncture may then be repeated some time afterwards; but, where the puncture has not become closed, I have seldom found any ill consequences to arise from it remaining open.

“When the ulceration of the cartilages has made very considerable progress,” continues Mr. Brodie, “if the patient recovers so as to preserve the limb, he seldom has the use of the joint afterwards, the bones composing it being united by ankylosis; but, if it has been checked in a less advanced stage, even though there is reason to believe that the cartilages have been extensively destroyed, the patient may retain the natural motion of the joint. I have not hitherto examined any cases in which it appeared that there had been any attempt at the regeneration of the absorbed cartilages; and I have occasionally been able both to feel and to hear the hard surfaces of the bones grating against each other in such a manner that it was evident they had no cartilaginous coverings. In some instances a compact layer of bone is formed on the carious surface, nearly similar to what is seen on the healthy bone after the cartilage has been destroyed by maceration. I have many times, in dissection, observed a portion of the cartilage of a joint wanting, and in its place a thin layer of hard semi-transparent substance, of a grey colour, and presenting an irregular granulated surface. It is probable that, in these cases, the original disease had been ulceration of the cartilages. In a subject in the dissecting-room, I found no remains of cartilage on the bones of one hip, but in its place a crust of bony matter was formed, of a compact texture, of a white colour, smooth, and having an appearance not very unlike that of marble.”

Mr. Brodie next treats of scrofulous disease of the joints; some other morbid affections of those organs, as tumors, portions of loose cartilage, and gouty concretions in their cavities; caries of the spine; and inflammation of the bursæ mucosæ: but the space which the analysis of the more important and original parts of this treatise has already occupied, prevents the extension of it to the subjects above enumerated. Indeed, we consider that it would be useless to adduce further extracts from a work that will constitute part of our classical medical literature.

FOREIGN MEDICAL AND PHYSICAL SCIENCE AND LITERATURE.

THE character which the physiological and pathological doctrine of M. BROUSSAIS has assumed, and the degree in which it is estimated by many physicians of the first eminence in France, render a knowledge of it of general interest, and, indeed, of considerable importance. Since the publication of his *Examination of the Medical Doctrines generally adopted*—or, perhaps, rather, since his work on *Chronic Inflammations*—showed the depth of his views; his opinions have progressively obtained increased attention; particularly from those physicians who think that physiology is the only true foundation for medical knowledge.

It is somewhat remarkable that philosophers of the present day should, in attempting to refute a system of doctrine, direct their attacks against some few of its particular applications, and not against the principles on which it is founded: such, however, has been the conduct of the chief of the adversaries of the system of Dr. Broussais. They have thus either tacitly acknowledged the truth of its principles, or have felt their inability to produce substantial arguments against them. Some of the applications which the author has made of his theory are, doubtless, incorrect, or not clearly developed; but this should not be adduced as an objection to it on the whole; since both the adversaries and partisans of a system, the applications of which are so extensive, must perceive that the labours of a whole life would not be sufficient for its perfect illustration.

As this doctrine is, we believe, not generally known in England, we have considered that an exposition of it would be both gratifying and useful to our readers; and we had just began to arrange our observations, and to become sensible of the great length of time and labour that would be required to consider with sufficient attention the objections of its adversaries; and to digest the ideas of the author, and comprise his principal illustrations of them within concise limits, when a Memoir, embracing these objects, appeared in the second volume of the *Journal complémentaire du Dictionnaire des Sciences Medicales*, executed with so much conciseness, precision, and judgment, that we could not hesitate to adopt the reflections therein adduced; since they enable us to lay the subject before our readers without further delay, and in a manner that we should despair to be able to excel, were we to proceed further in our own labours.

“The adversaries of the new doctrine, who are versed in the knowledge of the different and almost innumerable opinions that have successively reigned in medicine, may, perhaps, object to our designating under the term of the *Doctrine of M. Broussais* the

series of opinions which that physician professes. We are not ignorant that several ideas are met with in authors more or less ancient, which have a great analogy with those of Dr. Broussais; we know that many notions by which he has profited are to be found in Baillou, Sydenham, Chirac, Bordeu, and Brown; and many of the physiological principles he teaches were advanced by Lorenz, Lamarck, and some other authors; and, therefore, we do not pretend that all his ideas are absolutely new: but we think, with him, that the greater number of those which are not so were misunderstood, or considered as incorrect, by the generality of modern physicians. We would also observe, to those who think it possible that a person can go from book to book to seek individually the ideas which he may adopt for his use, that they do not comprehend the manner in which knowledge can be acquired; they do not perceive the difference there is between detached propositions, often lost in a mass of absurdities, and a regular system of medicine: an entire life would not be sufficient for the researches alone that such a method would require. We may, therefore, attribute to the new system the name of M. Broussais; for, admitting that many parts of it previously existed, it is not less incontestible that it is he who has united them into a regularly-organized doctrine. In taking advantage of the labours of his predecessors, he has only imitated Hoffman, Stahl, and Boërhaave, whom no one has blamed for having acted in this manner. Much of the system of M. Broussais has been derived from Bichât, who himself profited so well by the beautiful ideas developed by Bordeu, in his *Researches on the Glands and the Mucous Tissue*. Bichât distinguished the particular structure and peculiar mode of vitality of each tissue of the animal economy. He considered that they might all be distinctly affected in their diseases, and that the phenomena which accompany their lesion are totally distinct in each species of tissue. He also perceived that no precise pathological knowledge could be acquired, until physicians made a knowledge of the diseased organ the basis of their study. But, notwithstanding the work of Bichât was in the hands of all practitioners, and the warmest eulogia were conferred on it, the ideas of that great man had remained sterile until they were adopted by M. Broussais.

The object of this physician is to apply physiology to pathology, and to refer to organic lesion all the diseases which result from functional derangement. He banishes from medical theory all ideas of primary general affections,—that is, those originally seated in all parts of the system. According to him, there is no agent which can directly produce disease of the whole system at the same time; the symptoms, more or less general, which have been considered as designative of such morbid affections, are only sympathetic effects of a primitive local organic derangement. In the course of our exposition of his opinions, we shall lay before the reader the facts which support this proposition. At present, it may be sufficient to observe, that, all parts of the body possessing

different degrees of sensibility and excitability, and bearing a particular relation to a certain number of external bodies, it is not possible that all the organs can be simultaneously influenced by any one of them.

But to understand the mode of action of the system in the state of health is not sufficient to enable us to appreciate correctly the sympathetic influence which they exert on each other, and to arrive at a discovery of the diseased organ; "we must also," says M. Broussais, "determine why it is so,—in what manner it is so,—and how it may be possible to remove it: it is in that consists what we should understand by *the nature of a disease*;" and it is then alone we can proceed, with security, to a rational practice of medicine.

The human body is not an homogeneous mass; it is composed of numerous organs, united to each other by the three organic systems that enter into their composition, and which establish between them more or less intimate relations. These systems are the sanguineous, lymphatic, and nervous. In the first, it should be observed, that its most finely-developed extremities—that is, the capillary vessels—do not the whole of them give passage to red blood; a great part of these capillary vessels admit only colourless fluids, which serve to form new productions. From morbid phenomena presenting considerable differences according to the nature of the capillaries in which they are seated, M. Broussais designates the whole of the vessels of the body by the term *vascular system*, and distinguishes them into red and white vessels; the latter comprising the radicular lymphatic filaments, and the secretory, excretory, and other vessels, which never give passage to red blood.

The final divisions of the vascular and nervous systems are intimately connected with each other, on being distributed to and finally lost in the various organs; and the different proportions in which they exist give to these organs particular properties. Thus the red vessels and nerves are but sparingly distributed in the serous membranes, cartilages, bones, &c.; but they are more numerous in the mucous membranes, parenchymatous structure, and muscles; and in direct proportion to their predominance is the liability of the parts to inflammatory and nervous diseases. We must observe with M. Broussais, that the intimate connexion between the ramifications of the vessels and nerves is such that, in the great majority of cases, morbid causes extend their action from one to the other. Thus, although the nervous system receive the first impression, the irritation is almost always, sooner or later, conveyed to the capillary blood-vessels; the result of which may be inflammation, greater or less in degree. M. Broussais shows that, in a great number of affections regarded as essentially nervous, the increased sensibility of the nerves is, more frequently than is commonly supposed, kept up by vascular irritation; and that it is this we must attack in order to remove the disease. These important facts will, however, be considered, as well as the modifications

that irritation undergoes when it is prolonged in an organ, when we examine those parts of the new doctrine which relate to inflammation, nervous affections, and organic lesions.

The vascular and nervous systems, we have observed, establish between the different organs such communications, that the impressions received by any one of them is rapidly communicated to the rest. The various phenomena that result from this mutual consent constitute sympathies, the study of which is of so much pathological importance, particularly in the doctrine of M. Broussais; and it is shown by this physician, that the nervous system is its exclusive agent. Indeed, however obscure this subject may have appeared to the generality of modern physiologists, it is evident that the different organs being connected only by vessels and nerves, and the former only supplying them with the materials for nutrition, it must be the latter which are the conductors of the impressions they transmit to each other. But, on admitting this proposition, the following question arises:—Is it necessary that these impressions should pass the cerebral centre? M. Broussais decides in the affirmative. According to him, the impressions received by the nerves, whether of the external parts of the body, of the mucous membranes, or the internal structure of organs, is always transmitted to the brain; whence it is reflected throughout the whole extent of the sensitive system. The effects that result from this rapid communication of impressions vary according to individual predispositions: if an organ be inflamed, it will always experience this influence in a particular manner; in other cases, the most sensible parts will be especially affected. Thus, in one person the stomach, in another the lungs, in a third the pleura, will be the principal seat of sympathetic disease from the influence of irritation.

It must be considered that the communications established between the principal viscera by the numerous branches of the great sympathetic nerve, with those which exist between the central organs and all parts of the body by means of the filaments of this nerve, which accompany the arteries until they are lost in the tissues to which they are distributed; serve to transmit directly the impressions from one to the other of these parts, at the same instant that they are imparted to the brain; so that the whole system may be simultaneously affected, and not *after* the cerebral centre. Thus, an irritated organ becomes (if it may be so expressed) a focus whence impressions more or less powerful diverge, that affect at the same time all the animal economy, and which concentrate their influence on the brain, or on other viscera, according as the sensibility of them may predominate. We must observe, that we do not affirm any thing on this point, but it appears to deserve attentive examination.

After having taken a rapid view of the whole animal economy, and considered in a general manner the relations that exist between its different parts, let us, with M. Broussais, devote our attention to the mode of action of morbid causes.

"Our body is maintained," he observes, "by appropriating to itself the substances which it has the power to assimilate to it; and in rejecting those which are either injurious, superfluous, or have been already employed. In order to execute these actions, it is endued with sensibility; by means of which all that comes in contact with it produces motions in its organization: there is also a necessity that it should be constantly excited; if it cease to be thus affected, it languishes, and at length perishes." The agents of this irritation are external bodies; the fluids contained in the vessels; and the influence which the organs reciprocally exert on each other. These different agents, M. Broussais remarks, may be distinguished into those which contain nutritive materials, and those which excite the parts without affording any thing which is capable of augmenting their substance. The inferences that may be deduced from this division will be hereafter developed.

In the state of health, each organ enjoys the sum of the powers which is necessary for its action; and, receiving from the rest of the system (M. Broussais comprises under this denomination the whole of the exciting and debilitating agents) a determinate degree of stimulating influence, it reverts, in like manner, an excitant power over the whole animal economy, which bears an appropriate relation to its wants. But this equilibrium may be destroyed, and that because the influence exerted on any particular organ may excite it either too little or too much. This constitutes a state of disease.

It is evident that irritation* will never be confined to the part which immediately experiences it, unless it be very feeble; but the difference in its degrees will produce different results from its transmission throughout the rest of the body. If the stimulus, although weak, be continued in an important organ for a long period of time, it then influences others, producing in them increased action. This is observed in the first stages of pulmonary irritation, in persons disposed to phthisis; in those who begin to indulge in too frequent exercise of the genital organs; in irritations of the stomach, &c. &c. In all these cases an extraordinary degree of activity may be observed in all the functions,—an excess of apparent health, which the attentive physician perceives to be only the prelude to the most serious diseases. But, when irritation is more considerable, and particularly when it is seated in the parenchymatous structure of an organ, or on a mucous membrane, (parts abundantly supplied with blood-vessels,) it produces an increase of action in all the other parts of the system; the result of which is termed *inflammatory fever*. We shall particularly treat of the mode in which fever is thus produced, when we consider the ideas of M. Broussais on this subject, on another occasion.

When local irritation is violent in degree, other phenomena are manifested in the system: the diseased part appears to draw to

* By irritation, M. Broussais would signify an exaltation of the action of the vessels or nerves which enter into the composition of the organs of the animal economy.

itself all the vital power, leaving the other organs in a state of languor and weakness, which has been designated by the term *adynamia*. The facility with which this concentration of action may be produced, depends both on the nature of the part affected and the habit of body of the patient. Thus, the viscera contained in the splanchnic cavities, particularly the stomach and intestines, give rise to them much more readily than any other parts. Besides which, there are some persons in whom but trifling local affections will produce extreme prostration of strength; whilst others experience considerable re-action from more violent degrees of irritation. These distinctions, founded on physiological observation and the results of the practice of medicine, are, as we shall hereafter show, one of the bases of the doctrine of M. Broussais respecting the species of fever termed *adynamic*.

A question here presents itself of the highest importance in pathology:—Are morbid affections dependent on irritation of parts, more numerous and more frequent than those dependent on debility as their primary cause? M. Broussais decides in the affirmative. The study of diseases seems to furnish the most convincing evidence of the correctness of this opinion: “it proves that it is by inflammation destroying, with greater or less promptitude, one or more organs essential to life, that the greater number of persons perish.”—“Every practitioner, accustomed to contemplate the ruins of the admirable edifice constituting man, which the efforts of the medical art have not been able to avert, must be fully convinced of this truth. On perusing the immortal work of Morgagni, we every instant perceive the most unequivocal effects of inflammation. If we question patients suffering from chronic disease, the greater number of them will be found to complain of fixed and permanent pain of some part; whilst the fever, and the state of general depression and decay, which we witness in them, lead us to anticipate what is but too often realized,—that they will perish from inflammatory disorganization of some one of the viscera.”—“If we examine acute diseases, (continues M. Broussais,) we shall almost always observe symptoms of re-action, or of concentration of the vital powers, to coincide with inflammation of an organ, the lesion of which, though often visible during life, may not be discovered until after death.”

(To be continued.)

A Memoir on Temulent Diseases; by JOSEPH KLAPP, M.D.
Physician to the Philadelphia Infirmary.

It has lately been remarked by Dr. EDWARD PERCIVAL, that “it is peculiarly necessary to assert the value of physical researches at the present day, when certain notions respecting the paramount efficacy of *moral management* of the insane are growing into prevalence. No doubt, indeed, can be entertained of the importance of this auxiliary, both in a humane and remedial

aspect; yet, if the labours of pathology be sacrificed to the light suggestions of disappointment or scepticism, the certain effect will be the retrogradation of science." The same disappointments in pathological enquiries have influenced the reasonings of physiologists on the nature, as well as the treatment, of mental alienation; and attempts have been made to explain the phenomena of that derangement by arguments deduced solely from metaphysical principles. But, does not the description of De BONALD point out the utmost degree to which our ideas should be suffered to stray from materialism in our enquiries into the animal economy, when he happily describes man as "an intelligence served by organs?" We have not, however, yet arrived at that period when imaginary agents, to which powers and functions *ad libitum* are attributed, will cease to be called in to our aid, in order to get rid of every difficulty that may arise in the course of our enquiries. Thus, a professor, who is acknowledged throughout Europe as a man of considerable learning and talents, has lately described delirium as "a state in which reason is eclipsed by some derangement, direct or indirect, of the intermediate substance which is subservient to the relation existing between intelligence and the bodily organs."*

We consider the Memoir of Dr. KLAPP, which we are about to lay before our readers, of considerable value; not only from its furnishing testimony in support of what we have just endeavoured to show the importance, but also because it adduces evidence of another point that has been too much neglected—the *gastric origin* of mental insanity, and several other of the diseases usually termed *neuroses*.

Physicians have, indeed, for some time past been disposed to seek for the origin of several *nervous* maladies in disorder of the chylopoietic viscera; but those views have not, in general, been sufficiently extended to mental alienation, notwithstanding the facts which have, during some years past, been adduced in support of them by several physiologists of great research and accurate observation. The writings of Housset, Pinel, Prost, Esquirol, Kaempff, Schmucker, Hufeland, Elvert, Cheyne, Hamilton, Cox, Percival, and many other physicians who have had opportunities for extensive examination of bodies after death, furnish sufficient evidence to prove that mental disorders most frequently arise from the source to which we have alluded. PINEL, whose observations and opinions merit the greatest attention and respect, expressly states that "the primary seat of disease productive of mental alienation appears to be, in general, in the region of the stomach and intestines, whence it is extended, as from a centre, by irradiation, and deranges the intellectual

* "Le delire est un état dans lequel la raison est éclipsee par un dérangement quelconque, direct ou indirect, de la substance intermédiaire qui sert aux relations entre l'intelligence et les organes corporels."

functions."* Regarding the testimonials to which we have referred, the brain is still too much regarded as the original seat of the disease on which those maladies depend; a disposition that appears to have been much increased by the opinions of GALL and SPURZHEIM; and which may probably be placed in opposition to the numerous advantages that physiology has derived from their doctrines.

Dr. Klapp commences with observing, that—

"Some late particular experience induces me to solicit the attention of the faculty to the pathology, but more especially to the treatment, of those kinds of vertigo, mania and epilepsy, which are produced by the inordinate use of ardent liquors. They are, I believe, equally gastric in their origin, and so similar in nature as will justify a declaration of their being only different members of the same group or family of diseases. That these three complaints are derived from the same or a similar morbid state of the stomach, induced by its having been unduly stimulated with ardent liquors, is a position which I trust will prove to be well founded.—1st, On the sameness of their remote cause; 2d, on their symptoms; 3d, on certain facts; 4th, on dissections; and 5th, on their method of cure.

"In vertigo, the dyspeptic symptoms more constantly attend. Epileptic patients are, I believe, always more or less harassed with nausea. In the cases which will be presently related, frequent reachings, or ineffectual vomiting, constituted a prominent and leading symptom. In the first and convalescent stages of drunken insanity, it is well known that patients refer their complaints chiefly to the stomach.

"Certain facts have come within my knowledge, which I think will be admitted to afford some support to our gastric pathology. These have a tendency to show that, in habits predisposed to the epilepsy and mania under consideration, irritants of different kinds are capable of exciting those diseases. The doctrine also derives additional support from the circumstance of those diseases almost immediately ceasing to exist upon extracting from the stomach their noxious causes. The first of the facts alluded to I will transcribe from a case of mania a temulentia described in my communication on that disease in the seventh volume of the Eclectic Repertory.—'20th of August, while the patient was convalescent, he requested to have something to eat: I would only permit him to have panado or gruel containing a small quantity of brandy, and he was allowed for drink some weak wine-and-water.—21st. My directions had been deviated from; the patient was indiscreetly permitted to eat several small birds: shortly afterwards he began to complain of a sense of heaviness, and of pain in the region of the stomach and back. In the night, slight but evident aberrations of the mind were again noticed, and his rest had not been so

* *Traité Medico-Philosophique sur l'Aliénation Mentale*, p. 141.

comfortable. Suspecting that the stimulus of his yesterday's dinner had occasioned these symptoms, I desired that the emetic solution should be again given to him.

"22d. The medicine had operated freely after giving the first dose: the uneasy feelings about the stomach from that time ceased, and he slept comfortably through the night.

"23d. The patient to-day was found walking about the house in every respect well, and the attendance was discontinued."

"This case exhibits, I think, very clearly a specimen of derangement of mind, symptomatic of a primary disease of the stomach, induced by the irritating effects of aliment which it was incapable of digesting. As soon as the emetic had relieved the pain and oppression about the stomach, by the displacement of their cause, the mental disease disappeared.

"The second fact I will submit, of an import, and admitting of a construction, similar to the first, I have been supplied with in the case of a patient who had been cured of lunacy from intemperance in the infirmary of the alms-house. While convalescent he was liberated from his cell, and permitted to walk in the yard. Shortly after his enlargement he privately ate a quantity of hard, indigestible bread, and then drank freely of cold water. He soon began to complain of his meal sitting heavy on his stomach; derangement of mind speedily supervened, and it became necessary to remand him to his cell. The cause of his disease having been satisfactorily discovered, an emetic was administered, which operated briskly, and brought off the bread he had eaten; and shortly afterwards he became again rational.

"A third patient, with the same disease, while convalescent, was induced, through the persuasion of some anxious officious friend, to take a raw egg with wine in the morning to strengthen the stomach: the dose proved indigestible; his stomach soon became uneasy, and epileptic convulsions, with derangement of mind, ensued. In the course of a few hours, after many remedies had been ineffectually applied, he took something (at present not recollected what) which acted as an emetic, and the egg was disgorged entire, or nearly as much so as when it was swallowed. After this the epilepsy and mania ceased, nor had he any return of them from that time.

"If it be admitted that the diseases, whose pathology I have been endeavouring to illustrate, consist of a morbid condition of the stomach, the indication of cure from thence to be deduced is rendered very evident: to remove offensive matters which impress a morbid influence on the nerves of that organ, and more especially to alter its state so as to enable it to perform its healthy functions, the use of emetics is clearly indicated. The subjoined cases will exhibit the effects of this practice. I will begin with vertigo.

"Mr. —, about 50 years of age, has long been in the habit of using strong drink to an excess. On the 1st of June last, my assistance in his case was desired, and of which he gave me the fol-

interesting account. For a length of time he had been subject to bilious pukings in the mornings, a poor appetite, and vertigo of a severe kind. The last affection often seizes him while walking about, and sometimes induces a degree of debility in his limbs, nearly causing him to fall. This morning he suffered a severe attack of this kind, in consequence of which he fell on the floor; though the disease did not extend so far as to occasion either convulsion or a loss of sense at the time. His skin was cool, and the pulse nearly natural, beating about 63 times a minute.

"He was directed to take two grains of *tartris antimonii*, dissolved in a little warm water, every fifteen minutes, until the stomach was freely evacuated, and, while operating, to drink warm water copiously. June 2d, on entering his chamber, he accosted me with the following remark:—"I am much better to-day, and have a strong appetite, which I have not before known for a long time." Eight grains of the tartar emetic had been taken when vomiting ensued, and the stomach was well deterged of its morbid contents; it also purged him twice freely. When the operation was over, he found his vertigo was gone. The pulse this day stood at 84, and somewhat weak; his skin remains cool, and he now complains of nothing but a sense of general weakness. He was ordered a light diet, and the use of bitters.

"June 3d. Has had no return of the vertigo, and his appetite is unimpaired. Continue bitters.

"June 4th. Remaining well, further attendance was omitted."

Dr. Klapp then refers to the seventh volume of the *Eclectic Repertory* for several cases, related by him, of *mania à temulentia*, which were successfully treated in the same manner; one of which we shall transcribe:—

"On the evening of the 2d of October, 1814, G— was admitted a patient into the alms-house, for mental derangement of the furibund grade, and satisfactorily ascertained to have been occasioned by the excessive use of ardent liquors. He is a carpenter by occupation, is about 40 years of age, and on enquiry I was told that for many years he had been a very intemperate man. To prevent injury to himself, it was found necessary, in addition to the use of the strait-waistcoat, to have him closely chained to the floor of his cell. His pulse was frequent and weak, and the trembling of his limbs was very great. He took two grains of the *tartris antimonii*, dissolved in a little warm water, every fifteen minutes: vomiting was not created until after twenty grains had been administered, when a large quantity of viscid mucus and sordes were brought up, and afterwards the bowels were smartly purged. After the operation of the antimony was over, the pulse had become less frequent, and fuller. The patient had some sleep during the latter part of the night.

"3d. He seems much better; pulse remains as last stated; he speaks correctly on some subjects, but remains evidently deranged on some others. On entering his cell, we found him very curiously employed: he was pressing with both arms, and apparently

with all his strength, against the wall. I requested an explanation of his conduct, but he refused to give me his reason for doing so. The cell-keeper afterwards informed me, that during the whole morning he had been bearing against the wall, through a fear (as G—— had stated to him) that, unless it was held up, it would certainly fall upon him and crush him to pieces. I desired the tartarised antimony to be repeated.

“4th. When sixteen grains had been given, first vomiting, and then copious purging, ensued. On examination, the pulse proved to be 100, and weak: he is plainly more rational in both conversation and behaviour; in short, it was rather difficult to discover that there was any of the mental affection remaining. In the course, however, of my conversation with him, it was perceived that his intellectual faculties had not yet been perfectly reinstated. Prescribed blister-plasters to the ankles.

“5th. Out of the last twenty-four hours he has slept eighteen, and is still inclined to sleep. When questioned about sleeping so much, seems conscious of his indolence, and apologised for it by saying that the narrow limits of his cell would not admit him to take exercise, so he thought he might as well sleep as not. The blisters had not yet been dressed. By the test of conversation, he this day proved rational upon every subject. The tremors of the limbs have totally ceased; pulse remains rather too frequent, but has more strength than at any time heretofore. Nothing prescribed but some light diet.

“6th. As yesterday. On entering the cell, I found G—— was still very comfortably reposing in bed: he stated to me that his sleep had been uninterrupted through the night; and asserted that, with the exception of a little weakness, he now felt as well as he had ever done, and requested his discharge; but was prevailed on to delay his departure a day or two longer. The pupil of the house was directed to furnish him with a little spirit and water for drink, and to give him panado, containing some spirits, for sustenance.

“7th. Continuing to be well, I consented to his liberation.”

In a Memoir published in the work to which we have referred, Dr. Klapp expressed an opinion that the use of emetics in mania à temulentia accompanied with epilepsy would be unsafe; he has since, he observes, become convinced that this was entertained without foundation. From extensive experience, since the date of that publication, he has ascertained that, so far from the accompaniment of epilepsy forming an objection to the use of the emetic, that disease, when the effect of hard drinking, whether it occurs in conjunction with mania, or exists in a separate state, is itself safely and promptly removed by it. Several cases are adduced to illustrate this remark, of which our limits will only permit us to transcribe the following:—

“T. F. aged 47 years, for a length of time in the habit of drinking to an excess, during the last week or ten days has been affected

with sleepiness, a loss of appetite, pain in the breast, and tremor in the limbs.

"On the 21st of May of the present year, at ten o'clock in the morning, he was suddenly seized with a violent epileptic fit; which continued fifteen minutes.

"On the 22d, he fell into a state of mental derangement; and,

"On the 23d, I found him labouring under several diseased perceptions, particularly from sight and hearing. His false perceptions and insane thoughts are of this kind:—He is constantly engaged in picking up, in different parts of the room, certain imaginary objects, and seems desirous of having them all together in one place. He charges his wife with having conspired with a number of persons for the purpose of killing him, and to carry off his property. He frequently declares that, during the whole of last night, his house, in consequence of the efforts of these conspirators to plunder him of his property and to carry him off, was made a constant scene of bustle and contention. His skin is covered with a cool, or rather a cold, perspiration; the tongue is partially covered with a brown fur; the pupils of his eyes are a little dilated; has no pain in the head. Through a fear that I was actuated by some improper motive towards him, he would not permit me to have his hand long enough to feel his pulse. I ordered two grains of tartarised antimony to be given to him, dissolved in water, every fifteen minutes, till vomiting was freely excited; after which, to have him kept as quiet as possible to encourage sleep.

"24th. After three doses of the antimony had been given he vomited considerably, and discharged a large quantity of a dark-green coloured sordes. When the operation was over, of his own accord he went up into his chamber, laid down, and slept a little. When he awoke, his insanity continued, but to a less degree than before. He was very restless through the night; and this morning, before I saw him, his wife again gave him the emetic, which operated both upwards and downwards severely. Neither yesterday nor to-day, while the emetic was operating, could any disposition be perceived to a return of his epilepsy. Mrs. D. this day assures me that, each time after using the emetic, she could perceive an evident abatement of his mental derangement. For the first time, to-day he would permit me to examine his pulse: it was 134 a-minute, and possessed some force. His skin remains moist, and has acquired its natural temperature; the tongue has become clean and moist. A blister-plaster was directed to be applied to the back of his neck. A light diet was enjoined, and the use of spirituous drink forbidden.

"25th. When I entered his room to-day, he said a great change had occurred in his case since yesterday; a remark with which I was pleased, as it indicated a return of reason. I asked him if he recollected what was the matter with him yesterday? His reply was, that he believed he had been out of his senses. For a short

time to-day he was again deranged, but afterwards he went into a sound sleep. When he awoke he was sensible, and has since remained so. The pulse is now only 100, and the tongue and skin natural. A continuation of rest and the light diet were directed.

"26th. In mind he now appears to be quite well, but complains much of weakness and a soreness in all his limbs. I prescribed half a cupfull of bitter tea to be taken several times through the day. The tea was made by infusing bark, serpentaria, and chamomile, of each two drachms, in a quart of boiling water.

"27th. To all appearance being at this visit well in both body and mind, I concluded to take my leave of Mr. D."

Cases illustrative of the beneficial Influence of Nux Vomica in Paralysis. Related by Dr. LESCURE.

A YOUNG man, who had been afflicted with epilepsy from the age of twenty, which was first induced by the influence of terror, was twelve years afterwards attacked with *paraplegia* from a similar emotion: this new affection entirely superseded the former. Four years passed away without his experiencing any relief from the measures that were employed, when he came under the care of Dr. LESCURE. Four grains of the extract of *nux vomica* were administered daily, divided into two doses. After eight days the dose of the medicine had been raised to five grains, and to six grains in the course of the following week. The patient then began to complain of heat about the stomach; a sense of constriction in the abdomen; difficulty in passing the urine; and occasionally a sense of contraction in the muscles of the lower extremities. The use of the remedy was suspended for a short time, and then resumed in the former quantity. Three weeks afterwards the retention of urine returned, and was more complete than on the former occasion; and it was accompanied with forcible sudden contractions in the paralyzed limbs. These symptoms disappeared on omitting to use the extract for four days: at this time the patient was able to leave his bed, and walk about his chamber with the assistance of an arm. The medicine was then repeated in doses of eight grains: at the end of three weeks he experienced an attack of tetanus, which continued for four hours. This was followed by a still greater amelioration of the original disease, and at length by its perfect and permanent removal.

A female, who had been subject to attacks of hysteria and pains about the loins and thighs, was seized with *paraplegia* after one of those paroxysms. The extract of *nux vomica*, conjoined with opium, was directed for her by Dr. Lescure. During the first week, the quantity administered daily of the former had been carried to six grains, that of the latter to half a grain: one grain and the sixth of a grain, respectively, were each week added to the daily doses of the medicine. At the end of a month the paralyzed limbs became affected with slight contractions, to which

succeeded a return of sensibility. On the forty-third day, pain about the stomach, and difficulty in swallowing and passing the urine came on; which accidents were followed by swelling of the paralytic extremities. These symptoms continued to increase for three days, when the use of the remedy was suspended. The same mode of treatment was resumed on the disappearance of these symptoms; but fifteen days afterwards they returned. On their subsidence the medicine was again administered; and eight days afterwards the patient experienced convulsive motions of the limbs, followed by tetanus and retention of urine. An amelioration of the original disease was regularly noticed after each of these attacks, and after the last the patient began to walk. The paralysis then gradually disappeared, and her health became perfectly re-established.

A female, who had become affected with paralysis of the whole of the limbs, incontinence of urine, and amaurosis, subsequently to the cessation of the menses, and which continued to become more fully established, took the extract of *nux vomica* for two months. During this time two of the attacks above described, and which appear attributable to the medicine, had taken place. At the end of that period the disorder had entirely disappeared.

The following case of paralysis, treated by the same remedy, is related by Dr. Finot, of Luxeuil:—

L. A., aged 52 years, of a robust habit of body, who had led an indolent life and indulged in excess in the use of spirituous liquors, was seized, in the month of February, 1818, with an attack of apoplexy, which was followed by hemiplegia of the left side. All the usual measures were employed, without being productive of benefit. On the 1st of June he consulted Dr. Finot. He then had hardly any power of motion of either the arm or leg of the affected side; his speech was hardly intelligible, and the motion of one side of the tongue appeared to be performed with much difficulty. There was a distortion of the mouth, and complete eversion of the inferior eyelid of the left side.

On the 2d of June he took four grains of the powder of *nux vomica*; the quantity of which was increased without being productive of ill effect until the 8th, when slight spasms and convulsions of the affected limbs took place; which were succeeded by heat and pain of the parts, and greater facility of motion. The quantity of the remedy daily administered had been carried to twelve grains on the 14th of the same month, when the patient suffered darting pains and tremblings in the affected side. On the 18th, he could use the arm tolerably well, and bend the leg on the thigh, and the latter on the pelvis. On the 22d, he had recovered the power of almost the natural motion of the arm and leg, and could pronounce words with but little difficulty. The distortion of the mouth was hardly perceptible. On the 27th, after very painful darting sensations, which recurred during several successive days, the eyelid recovered its natural position. On the 30th, the patient walked with the assistance of a stick, experiencing only a little

stiffness of the limbs. On the 4th of July he was perfectly well. The dose of the powder of nux vomica had been extended to twenty-four grains during the last few days.*

Arthrocacology; or a Treatise on Luxations of the Joints dependent on internal Causes; and on the Efficacy, Mode of Action, and Application, of the Actual Cautery, in the Treatment of those Diseases. By JOHN NEPOMUK RUST, Doctor in Medicine and Surgery; Professor of Medicine and Surgery in the Royal Military Academy at Berlin; Director of the Hospital of Charity, &c. &c. 4to. pp. 195. Vienna, 1817.†

"*Ex ruinis alienæ existimationis sibi gradum ad famam strunt,*" as Scaliger observes, is too often applicable to the followers of science: and this not so much from an ambitious impulse, as from the charms of novelty of observation and opinion giving to certain objects such a degree of interest and importance, as to lead them to undervalue every thing that may not appear subservient to those objects and tend to favour their attainment. The chief intention of Professor Rust, in the treatise which we are about to introduce to our readers, is to show that all the notions previously held of the causes of spontaneous luxation of the joints have been erroneous, and to advance the opinions respecting it which his own observations and experience have led him to adopt. We may here mention, that it is not our intention to enter into a general analysis of this work; we shall merely adduce an abstract of those parts which are of importance, either from the novelty of opinion, or the pathological facts to which they relate: but, in justice to the author, we must remark, that the results of very extensive pathological and medical observation which it details, and the depth of erudition which it evinces, will alone render it an highly valuable addition to medical literature.

After noticing, in succession, the opinions respecting the causes of what is usually termed "the hip-joint disease," which have been entertained by former writers; and showing that it has been attributed by Schwenke, Gorter, Vermandois, Portal, Callisen, Plenk, Tschep, Monro, and De Haen, to inflammation of the synovial glands; by Clossius, to that of the articular capsule; by Duverney, Albers, Dorner, Russel, Boyer, and Ficker, to inflammation of the soft parts, and ulceration of the cartilage; by Camper, Van Swieten, and Freke, to alteration in the state of the synovial fluid; by Van der Haar, Portal, Kortum, Hagedorn,

* *Journal Universel des Sciences Medicales*, tome xi.

† *Arthrokakologie; oder über die Verrenkungen durch innere Bedingungen; und über die Heilkraft, Wirkungs- und Anwedungsanst des Glüheisens bey diesen Krankheitsformen.* Von Johann Nepomuk Rust.

- Heister, Platner, De Haen, and Richter, to a disease of the articulating surfaces from metastasis of an affection of some other parts; he endeavours to prove, from clinical observation, analogy, and examinations after death, that this malady commences by an inflammation and tendency to ulceration of the internal medullary membrane (*periosteum internum*,—*tela medullaris* of Blumenbach,) of the ends of the long bones; which, extending into their substance, produce enlargement, and subsequently caries, of their articulating extremities; and that it is from this enlargement rendering them disproportionate in bulk to the articulating cavity, that dislocation takes place.

This description Professor Rust would apply to all the affections which are usually designated by "the hip-joint disease;" but we are inclined to suppose that it relates solely to what is generally considered as scrofulous inflammation of the bones, and that a distinction should be made between this disease and that which is described by Mr. Brodie, and some former writers, as commencing in the cartilages of their articulating surfaces. That an affection of the latter kind does occasionally happen, is shown in the abstract we have given from the work of Mr. Brodie; but there may exist a doubt, as that gentleman has expressed, whether such is the ordinary origin of the disease. Yet it appears somewhat extraordinary, that Professor Rust should not have met with a single instance of this kind in his extensive experience. This may, perhaps, have arisen from the few opportunities that occur for immediate examination of the parts in the early stage of the malady, when such a distinction could alone be made; and those few opportunities which he has been able to embrace may, probably, have led to error, in consequence of their happening in patients who have died from diseases, where that under consideration has only been one of several symptoms, which were in reality of a scrofulous nature. Thus, in one instance of this kind related by Professor Rust, the seat of the malady was that which we have described: this was in a girl who died at twelve years of age from scrofulous pulmonary consumption, (an einer skrophulösen lungen-schwindsucht gestorben war.) We shall detail more fully the observations of the author on this part of the subject, in order that our readers may be furnished with grounds for the formation of their own opinions respecting them: but we discover that the near approach already made to the final limits of the present Number of our work obliges us to postpone this undertaking to a future occasion.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

Essays on the proximate Mechanical Causes of the general Phenomena of the Universe; by Sir RICHARD PHILLIPS. 12mo. pp. 96. London, 1818.

ON introducing to our readers a new system of physical philosophy, we are disposed, in the first instance, to make some observations in reply to the objections that may, perhaps, be made by some persons to the insertion of such a subject in a work professedly devoted to medical science; and also to our adducing, as a matter worthy of serious consideration, a theory of the nature of the universe, which is expressly in opposition to that which has for so long a period been generally received with passive approbation, is supposed to be founded on evidential truth, and to explain in a satisfactory manner all the phenomena to which it relates.

With respect to the former of these objections, we will only observe, that we adopt the sentiment of Hippocrates,—that a knowledge of natural philosophy is an essential qualification among those which tend to form a good physician. An attentive consideration of the annals of science will vindicate the propriety of our conduct with respect to the latter, by showing that it is not the domination of opinions for long periods of time, that should deter men from opposing to them such as appear to be more rational, and raised on a more evident and intelligible basis. It is not for us to determine whether or not this may be the case with respect to those we are about to consider: they, however, evidently merit the attention of philosophers; and, therefore, we judge that to lay them before our readers is part of our duty in “the fulfilment of our bond.”

It may be salutary advice to those persons who are disposed to treat with contempt a theory of the nature of the universe which is adverse to that of NEWTON, to request them to consider that the wisest men in all ages have been influenced by the prejudices and superstitious errors of their time: and which, from their having been impressed on the mind from the earliest dawn of reason, and supported by the general authority of their contemporaries, have been admitted without examination, and made to form the bases on which arguments have been raised as on the most evident and solid foundation. The age coeval with the life of Newton was one in which the most visionary notions respecting physics reigned in Europe without control: it was an age in which natural magic, sympathies, and other ridiculous occult influences, were admitted by the most eminent philosophers; and to many of whom, indeed, the observation of BACON, “*ubi diligentia deficit, spes superfluit*,” was too strictly applicable; and, as he continues to remark, “*præcepta enim magiæ naturalis talia sunt, ac si considerent homines terram subigere, et panem comedere absque sudore vultus; et par otiosas et faciles corporum applicationes rerum potentes fieri*”: or else they, with as little piety as true philosophy, on every occasion, “*tum inquirendi, tum operandi, proposuit Deus*.” In such a school was Newton educated.

The causes of the approach of bodies to each other in space, and the fall of bodies and the return of projectiles to the earth, (which phenomena have been designated by the terms *attraction* and *gravitation*,) were considered by some of the Greek philosophers as dependent on certain innate principles of matter, which acted by means of attractive effluvia or emanating particles given off from bodies; and these notions, Sir RICHARD PHILLIPS

observes, had been again promulgated in Europe for a considerable period previous to the time of SIR ISAAC NEWTON. It was this philosopher, however, who applied geometry to investigate the detail of those phenomena according to the law of emanations in general; but he left our knowledge of the proximate cause where he found it; he spoke of attraction and gravitation as inherent principles of all matter, and used the same terms to express the tendency of bodies to fall together.

"We might forbear (says Sir Richard Phillips) to consider gravitation except as a totality producing a given result, were it not that the Newtonian philosophy, in applying it to the solution of the planetary motions, considers it as a *specific* centripetal force, whose effect it would be to consolidate the universe in a mass, but for *another specific* force, which has been denominated the *projectile* force. It is evident, therefore, that, in inventing this latter force, and introducing it into his system of physics, Sir Isaac Newton considered *gravitation* itself as a substantive force, acting in one direction, and not simply as a name of the totality of the phenomena, as many of his commentators would infer."

These forces Sir Isaac Newton considered as acting simultaneously at right angles with respect to each other: by these laws he found he could explain the curvilinear motions of the planets; and then, from those curvilinear motions, he inferred the existence of such laws!

"To minds accustomed to contemplation and original thinking, (continues Sir Richard Phillips,) it can scarcely be necessary to expose the absurdities of the doctrine of *innate* attraction. If any one examine the principle that a body acts on another in a place where it is not,—without any intervention or contact being supposed to be necessary,—he will feel ashamed of the philosophy which adopts it. Till Mr. Locke examined the doctrine of *innate* ideas, philosophers were, however, not ashamed of conferring *innate* properties as often as phenomena required them."—"In regard to the mechanical cause of gravitation, there have been many hypotheses; but all have failed, either in probability or in agreement with the law of the force. The relative force being always governed by the law of emanation in odours, light, and heat, the principle of gravitation has often been considered as analogous to that of emanation; and, by a false analogy, some species of emanation have, therefore, been considered as the sufficient cause. What, however, is an emanation but a flow of particles from a centre towards a concave surface,—a principle of action calculated to repel, or drive away, rather than attract, or draw towards?"—"Yet, however great may be the difficulties of the various attempts to solve the phenomena of gravitation, none have ever been made to account for the *projectile* force. Taking its existence for granted, all Newton's commentators agree that it must be the proximate power of the Deity!"

Instead, however, of a system which has introduced into science such fanciful and arbitrary forces, the author of these Essays is desirous of establishing a system of physics founded on the universal and analogous principle of MOTION, as it is transferred, by various combinations, from the greatest to the smallest portions of matter. He is desirous of proving that all phenomena of matter are effects of *motion*; and of making it appear that existing motions are competent to produce all known phenomena.

"*Motion* (he continues to observe) is that universal principle which confers on masses of matter the power of acting on other masses. In regard to matter, which is essentially inert, it is the source of momentum or potentiality, and is the animating soul of the universe. *Space* is the stage, *matter* is the subject, and *motion* is the agent producing all phenomena. As it affects atoms, it produces various densities; as it affects aggregates, it creates varied organizations; and, as it affects different aggregates, it develops the relative properties of matter.

"Motion, as it is transferred from body to body, from great to small, or from small to great, necessarily creates and constitutes a system of universal action, producing on inert matter a simultaneous system of universal and co-equal re-action. From this effect of action and re-action flows, in like manner, a necessary balance of all natural forces; however complicated may be the machinery on either side of the fulcrum of any system: and a further result of that balance is an universal fitness, correspondence, harmony, and analogy, of mechanical causes and effects."—"Matter has power or momentum when motion is communicated to it; but, as any motion, which has been communicated to any body, is soon transferred to the surrounding matter, so, when the motion has departed, the body ceases to have power or momentum."

The explanation given by Sir Richard Phillips of the phenomena ascribed to the power termed gravitation in the Newtonian system, does not interfere with any of the known relations of bodies, as determined by experiments and observation, or as applied in the geometrical and analytical investigations of GALILEO, KEPLER, DES CARTES, NEWTON, EULER, LA GRANGE, HERSCHEL, or LA PLACE; because the law of the forces is the same on this theory as on that of Newton—that the force of transferred motion is directly as the quantity of matter, and inversely as the square of the distance.

In illustration of this theory, Sir Richard Phillips enters at some length into the cause of the return of a projectile, when of a certain density, to the earth; which, he would demonstrate, depends on the orbicular and rotatory motions of the earth, by which all bodies on it are influenced. The rotatory motion of the earth produces an uniform orbicular velocity of bodies of various density in circles of different radii: by this means, media of different densities, which, being subject to a common force, and consequently receiving an equal momentum, would otherwise have different degrees of orbicular velocity, are made to keep an equal and uniform pace in the orbit of the earth. It is this rotatory motion that reduces to order what otherwise would be chaotic. Hence it is that all fluids are impelled into a level surface; hence too, doubtless, it has been that masses of the same density have formed themselves into strata while in a state of solution; hence arise all the phenomena which result from any disturbance in the order of density; and hence it is that, when a heavy body is thrown into lighter fluids, or a light body into dense fluids, the general law is proved by phenomena of ascent into circles of enlarged rotation, or descent into circles of smaller rotation, proportioned to the density.—"Every one who understands the terms (the author remarks,) is likely to feel as an axiom that the orbicular and rotatory motions of the earth necessarily give weight to bodies and laws to their fall, because the moving masses are in contact, and are so many patients partaking of the general motions."

Thus, a body, suddenly elevated from an inferior circle of rotation into one where a more rapid motion exists, or where a motion exists which does not accord with the density of the elevated body, is necessarily repelled from superior strata to inferior strata, till it finds its due level, or balance of motion and density, or till it finds support above its due station, on the concrete or fixed masses of the earth's surface. And thus, if a ball were projected at any height in the earth's atmosphere, with the velocity of that portion of the atmosphere, it never would have any tendency to fall to the earth, according to the system of Sir Richard Phillips, as well as that of Newton.

Galileo, who was the first geometrician who analysed the phenomena of falling bodies, considered that bodies thrown perpendicularly upward, merely describe in rising and falling the same straight line. But, it appears

evident, were this the case, that bodies projected perpendicularly from it would not return to the same spot from which they parted, since the earth in one second of time would have been carried forward a distance of 100,000 feet.—Sir Richard Phillips would infer, that an upright projectile does not describe a perpendicular line, but two sides of an obtuse triangle: the direction to which course is given by the rotatory motion of the earth, and this course is afterwards influenced in proportion to its density, by the different media, through which it must pass: until, having lost its projectile force, and the medium to which it had been carried being incapable of urging it with increased velocity, it would necessarily fall, if more dense, or be driven into the circle of its own velocity, with a force equal to the slight nascent deflection required to return it to the spot from which it was projected. The influence of the rotatory motion of the earth on projectiles, is illustrated by the dropping of a ball from the top-mast of a ship, which at the time was moving at any given rate, when the ball will fall perpendicularly at the foot of the mast, exactly as though the ship had been standing still. The fall of a ball at the foot of a tower, when dropped from its top, is also adduced in support of the principles of this system.

The above is an abstract of the doctrine of Sir Richard Phillips respecting the phenomena of the earth; and many powerful arguments are adduced by this philosopher to show, that those of the universe may be explained on the same principles; our limits, however, will not permit us to enter into the consideration of them; we can only adduce the following observations of the author on this part of his theory.

“The phenomena of the universe thus appear to be results of a system of motion transferring motion, or of motion generated by motion. By this simple agency a stone is propelled to a planet by the motions of the planet—a planet is carried round the sun by the motions of the sun—a secondary is carried round a primary by the joint motions of the sun and primary—and the motions of the sun are, perhaps, caused by the motions of systems of suns—while the motions of those systems may again be caused by other superior motions! In short, all nature consists of a series of included motions, produced by the motions of superior bodies and systems, till we ascend to the first term in the series—to some inscrutable CAUSE of CAUSES!”

Those who may not be disposed to admit evident truth in this theory, must at least acknowledge its sublimity—it simplifies nature—It explains all phenomena according to the known laws of the agency of matter, without the intervention of any imaginary occult principle—The general mathematical laws of it are the same as those heretofore determined; although arrived at by different trains of argument; and apparently founded on evident causes; and therefore, if true, must improve all our reasonings in regard to them, and lead to valuable discoveries by their applications to various subjects both in theory and practice.

The judicious advice adduced by Lucretius, on terminating his exposition of the doctrine of Epicurus, may not be unworthy of consideration on the present occasion; and with that we shall terminate this subject.

“Desine quapropter novitate exterritus ipsa
Exspuere ex animo rationem: sed magis acri
Judicio perpende: et si tibi vera videtur,
Dede manus: aut, si falsa est, accingere contra.”

SOME accounts have been published by Dr. ALLBIN, of Constantinople, and Dr. LAFORD, of Salonichi, to show that vaccination has the power to prevent the susceptibility to the infection of the plague. It is stated that, of six thousand persons vaccinated at Constantinople, not one became affected with the disease during a period when it was prevalent; and also that the Armenians are described as being entirely free from it, in consequence of having recourse to this measure. We have thought it proper to mention these circumstances; but we must remark, that the accounts are not related with sufficient precision to lead us to attribute much importance to them. No decided inferences can be drawn from the fact of such a number of persons having escaped the malady during its prevalence, after they had undergone vaccination; unless it could be ascertained whether or not their bodies had come in actual contact with those of persons affected with that disease, or with substances that might have been imbued with the perspirative matter, &c. of their skin; for it is now nearly satisfactorily ascertained that that is the only way by which the infection can be communicated.

THE application of a ligature to the common carotid artery, for the cure of aneurism of that vessel, has lately been performed with success in St. Bartholomew's Hospital. The patient was a middle-aged man, and had apparently suffered from the disease about two years. No unpleasant symptoms followed the operation.

THE following letter has been addressed to many gentlemen of the medical profession, and we think the promulgation of it may not prove unacceptable to the faculty in general.

“ *Lunatic Asylum, Hoxton House, Hoxton;*
January 1, 1819.”

“ SIR,

“ Permit me to inform you that my house, which has been established more than a century, continues to receive patients afflicted with mental derangement.

“ The successive improvements which have been made in my establishment, at a very considerable expence, has rendered it peculiarly adapted for the treatment of this malady, by uniting comfort and security in a healthful situation. It is my wish to impress and satisfy every medical practitioner, that any patient he may think proper to confide to my care will be considered *as under his exclusive treatment*, and that the management he may direct will be, in every instance, followed and strictly complied with.

“ For the attention and humane care which has ever distinguished my establishment, I beg leave to appeal to the commissioners of the Royal College of Physicians; whose impartial report

has ever been the highest sanction to my unremitting endeavours to exemplify, by tenderness of treatment, cleanliness, excellent diet, and general diffusion of comfort, the comparative superiority of this asylum.

"I have on my premises accommodation for all classes of patients, and (if required) separate houses and airing-grounds for those of a superior situation in life; and can, at an hour's notice, send careful and attentive male and female servants to take charge of persons labouring under mental derangement, either in London or any part of the country.

"I am, Sir, very respectfully,

"Your most obedient servant,

"JONATHAN MILES."

Prize Questions.—THE Society of Sciences of Haerlem has proposed the following questions for consideration, previous to January the 1st, 1820.

1. "How far has it been demonstrated that the fumigations by chlorine, as directed by Guyton-de-Morveau, have prevented the spreading of contagious maladies? What are the contagious diseases in which the effect of this gas deserves to be tried; and what ought to be observed in such experiments? Is there any reason to expect a more salutary effect in the prevention of contagion, from any other means hitherto employed or proposed?"

2. "What are we to regard as distinctly proved in respect to the gastric juice of the human body, and its influence in the digestion of food? Is its existence sufficiently proved by the experiments of Spallanzani and Senobia; or has it been rendered doubtful by the experiments of Montegre? What is it that comparative anatomy, and principally the opening of the stomach of animals killed either after fasting, or in a short time after having taken food, has rendered probable in this respect? And, in the case of the existence of the gastric juice in the human body being regarded as a fact perfectly established, what ought we to avoid in order not to impair its effect in the process of digestion?"

The premium for the best dissertation on each of those series of questions is a gold medal, or 150 florins.

The Royal Academy of Sciences of Paris has announced that a gold medal of 440 francs value will be given to the author of that printed work, or manuscript, which shall appear to have contributed most to the progress of experimental physiology. The dissertations are to be transmitted before the 1st of December, 1819.

REPORT OF DISEASES.

THE subject which should engage our chief attention in a report of the prevalent diseases of the metropolis, is that of fever; a form of disease of the highest importance at all times, but particularly so at the present period, when so much anxiety has been evinced respecting the extent of its existence and the mode in which it is disseminated. A somewhat more than ordinary proportion of cases continues to occur, especially in the practice of the physicians to public institutions; but that form usually designated typhus is almost exclusively confined to the lower classes of people: a circumstance from which arguments have been deduced in opposition to its contagious nature, by those who consider it to arise from common causes, the effects of which are modified by particular habits of life. It is not, of course, our intention to discuss this point here; but we must observe, that facts are occasionally witnessed which should determine its contagious property, according to the most correct rules of argument. The character which this form of disease has assumed in a great proportion of instances has been somewhat formidable, from the combination of severe inflammation of the respiratory organs with extreme debility. This debility has, in some instances, appeared to depend on cerebral congestion; in others, on the consequences of previous excitement; but, in a great proportion, on causes apparently inexplicable, or which are not immediately connected with the disease. Affections of the second class most frequently arise from the want of efficient medical assistance in the early stages of the malady. In this state, especially, signs have a pre-eminence over symptoms in assisting us to form the diagnosis; for the latter, which Galen happily compared to the shadow of a body, are here so obscured as to be with great difficulty distinguished with precision. These cases particularly demand a judicious and active mode of treatment. To urge the propriety of the use of the lancet in a great proportion of them is, we hope, unnecessary at the present day.

Scarlatina has, within the last few days, began to appear in an epidemic character.

Apoplexy and paralysis continue to prevail to an unusual extent, even for the season of the year. Warm winters will, we believe, be found to have been particularly productive of this malady. It has, in many instances, been preceded with dyspeptic affections, with which it appeared to be connected rather as a cause than as an effect. A peculiar cleanness and tremulous motion of the tongue was particularly observed, in one case, for some days previously to a fatal attack of this kind.

Rheumatism, cynanche, catarrh, and inflammation of the respiratory organs, are, as usual at this season, an urgent class of diseases. Consumptive patients, who, from the mildness of the season, are induced to appear much in the open air, have lately made more than ordinarily rapid progress to that state where even hope deserts them. Is there no physician of the present day, whom observation and experience will induce to rise up to vindicate the efficacy of digitalis in the alleviation of a great proportion of the cases of this malady? a remedy once so celebrated, but now, we fear, almost entirely neglected by practitioners in general.

The less immediately dangerous, though important, diseases which appear to predominate, are dyspepsia and gravel. The former may be attributed to the resort to the metropolis of those persons who are expressly the subjects of it. We have witnessed the adoption of Dr. Magendie's mode of treatment for the latter, in a few instances, with some advantage; but the patients could not be persuaded to a restriction of regimen to the extent directed by that physician, and therefore they cannot be fairly adduced as specimens of the full extent of what might be its efficacy in the cases to which it was here applied.

METEOROLOGICAL JOURNAL,

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

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

Day of Month.	Moon.	Rain gauge	THERM.		BAROM.		De Luc's		Wind.		Atmospheric Variation.				
							HYGROM.								
							Dry	Damp							
Dec															
20	☉		45	49	47	30	12	30	01	10	12	SSW	WSW	Clo.	Fine
21			48	47	50	30	07	30	38	10	11	W	WNW	Clo.	Fine
22			32	35	30	30	48	30	48	11	10	NW	WNW	Fog	
23			30	35	28	30	39	30	27	11	11	ENE	E	Fog	
24			30	34	27	30	27	30	21	12	10	ESE	SW	Fog	
25			30	33	35	30	11	29	97	13	10	SSE	SSE	Fog	Clo.
26			36	37	29	29	99	29	95	15	11	S	SE	Clo.	
27	☾		30	36	33	30	21	30	39	10	10	NE	NE	Clo.	
28			38	44	32	30	47	30	53	9	10	NE	N	Clo.	
29			35	38	30	30	60	30	60	9	8	W	W	Fine	Clo.
30			32	35	30	30	51	30	43	8	9	W	W	Fog	Clo.
31			31	34	30	30	50	30	43	10	10	W	W	Clo.	Fine
Jan.															
1			31	36	32	30	48	30	51	10	10	W	WNW	Fog	
2			34	37	29	30	48	30	41	10	11	NE	SE	Fog	
3	☉		40	44	32	30	37	30	30	10	9	SW	SW	Fine	Clo.
4			35	39	35	30	19	30	12	9	10	SE	S	Clo.	Fine
5			37	41	34	30	17	30	22	13	12	SSE	SE	Fog	Clo.
6			36	39	39	30	11	30	01	12	12	S	S	Fog	Clo.
7			40	42	39	29	95	29	71	11	12	W	W	Fog	Rain
8			42	46	44	29	69	29	75	15	16	SW	SW	Fine	Rain
9			49	51	40	29	56	29	64	15	17	S	SW	Fine	Rain
10			43	50	42	29	71	29	70	13	12	SW	S va.	Clo.	Rain
11	☉		45	49	41	29	76	29	87	15	15	SW	SW	Clo.	Rain
12			43	50	40	29	95	30	00	16	15	SW	W	Fine	Rain
13			41	47	39	30	12	30	03	17	15	W	SSW	Fine	Rain
14			44	50	40	29	93	29	99	15	13	SW	W	Rain	Clo.
15			45	49	44	30	10	30	00	13	17	S	SW	Clo.	Rain
16			46	48	39	30	22	30	05	15	10	SW	SW	Fine	Clo.
17			42	47	37	29	47	29	51	15	10	SW	SW	Rain	Fine
18			40	45	40	29	58	29	79	11	13	WSW	W	Fine	
19	☉		42	46	37	29	73	29	71	10	10	WSW	W	Fine	

The probable quantity of rain (the gauge having froze and burst) fallen in December is 1 inch and 29-100ths.