PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

Essay on the Modus Operandi of Medicines, read before the Medical Society of Augusta: By Joseph A. Eve, M. D. Professor of Therapeutics and Materia Medica in the Medical College of Georgia.

The subject of the Modus Operandi of Medicines, is one of intense interest, but of insuperable difficulty. Whilst nothing can be more curious and interesting, nothing can be more obscure and difficult to explain, than the manner in which medicines act in modifying the living tissues, the mode in which substances of different qualities and properties derived from all the kingdoms, animal, vegetable and mineral, introduced within or brought in contact with our bodies, operate in subverting disease and restoring health.

As respects the essential nature of the action of medicines—that is the immediate or proximate cause of the effect produced, all is speculation, hypothesis and vague conjecture. How foreign matter can affect and modify the condition of the vital tissues and organs, is a question still unsolved—our investigations have been made in vain—our enquiries have all returned unanswered—the mystery still remains veiled in impenetrable darkness.
And if we change our ground—reverse the problem and ask how does the living system act on medicines, for it is said "medicamina non agunt in cadaver," that medicines do not act in the dead body, but that the living body acts on them, no advantage is gained—there is no solution of the difficulty—our ignorance is still unenlightened as to the proximate mode, the rationale of the intimate changes that take place.

All that we can perhaps ever know respecting the mode of operation of medicines, is a knowledge of the organs or parts primarily acted on, the medium through which their impressions are communicated to other parts, the order or succession, and the effects or consequences, of the changes and modifications thus induced. Some medicines, as emetics, cathartics, enemata, &c., produce their effects by a direct and local impression on the part or organ to which they are applied—thus sal empsom in solution stimulates the inner surface of the intestinal canal and causes an increased secretion therefrom—this mode of operation, however, is limited—a very large majority of therapeutic agents display their effects in parts distant from that to which they are first addressed.

There are three modes in which medicinal action may be communicated from the part first impressed to others more remote: the 1st, by continuity of tissues; the 2nd, by the sympathies; and the 3rd, by absorption into the circulation, the remedies being thus conveyed directly by the blood to the organs over whose functions they exercise a specific influence, or for which they have a peculiar elective affinity, as diuretics for the kidneys, abortives for the uterus, &c.

With respect to the first of these modes of communication, there is perhaps little diversity of opinion among physicians—all agree that irritation of much intensity, whether spontaneous or artificially produced, has a natural tendency to extend itself to contiguous parts, especially in the same tissues, and few, if any would dispute the physiological fact, first inculcated by the illustrious Bichat, that if the mouth of an excretory duct be irritated, the irritation is propagated along the duct into the gland itself, causing an augmentation of its secretion, as exemplified in the effects of masticatories in promoting the flow of saliva, stimulants to the mouth of the lachrymal gland producing an effusion of tears, &c. This, however, is the least important medium of
communication, and is comparatively of but limited application, in explaining medicinal operation.

As to the second, the propagation of the action of medicines through the medium of sympathy, there is, I believe, perfect unanimity among therapeutists—no one disputes the very important agency of sympathy in communicating affections from one part of the economy to another. It is principally through the sympathetic and antagonistic relations that exist between the different organs and parts of the system, that impressions, morbid and curative, are transmitted through the organism: upon these relations depends the principle of revulsion—a principle of almost universal application in explaining the operation and effects of medicines. The sympathies direct and inverse, constitute a bond of union, by which all the organs and particular systems in the general system are bound together, in one consentient and harmonious whole—by virtue of which the affections of one part are conveyed to and felt by others, by which the organs feel and suffer together. The cerebro-spinal and ganglionic systems are the seats and media of the sympathies; as they are the organs of sensation, we cannot rationally conceive an idea of sympathy independent of them, therefore we shall employ the terms sympathy and nervous communication as synonymous. It is with reference to the third mode of operation, by absorption into the circulation, that there is some discrepancy of opinion among medical authors—some denying this medium of communication altogether and accounting for every thing on the principle of sympathy—whilst another party contend for both these modes of operation.

The principal authorities in favor of sympathy exclusively, are Professor Chapman in our own country, and Drs. Addison and Christison in Europe—on the other side of the question might be arranged a large majority of the most respectable medical writers, European and American.

We will state as succinctly as possible, the theory of Dr. Chapman, in his own words, and then adduce some of the principal facts and arguments in proof of the absorption of medicines into the blood.

"The theory I shall propose of the operation of medicines, (says Dr. Chapman,) alleges that they all act by exciting a local action which is extended through the medium of sympathy."
"Conformably to the theory I have adopted, whenever a medicinal substance is applied to a susceptible portion of the body, externally or internally, an action is excited, which is extended more or less according to the diffusibility of the properties of the substance, or the degree of sympathetic connection, which the part may maintain with the body generally. Thus a set of actions is raised, every one of which is precisely similar; provided they are confined to the same system, by which is to be understood parts of an identity of structure. If, however, the chain runs into other systems, it loses its homogeneousness of character, the actions being modified by the peculiar organization of the parts in which they may take place. These are principles of universal application. In every case, whether it respects the operation of remedies, or the production of disease, the spot primarily acted upon is a point, from which is diffused the radiated impression."

"This is a mode of action peculiar to living matter, and is remarkably distinguished from all other processes. An impression is made and extended without mixture or combination, or in any degree disturbing the order and constitution of the part in which it takes place."

Inasmuch as we do not deny the influence of sympathy and the communication of medicinal action through the medium of the nerves, it is unnecessary to state the arguments in support of this position. The transmission of the effects of some medicines and poisons, is too instantaneous to admit of any other mode of communication than that through the nerves—the suddenness of their effects precluding altogether the idea of absorption into the blood, such as prussic acid, &c.

Without considering with Dr. Chapman the stomach to be "the throne of the vital power," it enjoys the most numerous and the strongest sympathies with the organs generally, inasmuch that when the stomach is languid, the whole system languishes*—and on the contrary, when this organ is excited by food or drink, the whole system participates in the excitement.

As soon as food is received into the stomach of a person feeble and faint from fasting, strength and animation are imparted before the first process of digestion commences, which can only

*"Ventriculo languido omnia languent."
be accounted for on the principle of sympathy—the vigor thus restored, would however soon subside, were it not rendered more permanent by the subsequent conversion of the aliment into chyle and its absorption into the blood. But to multiply arguments to prove a fact so evident, so well established, and so generally acknowledged, would be a useless task.

Professor Chapman's denial of the operation of medicines by absorption, is founded on two opinions that are in direct opposition to experiment and observation: First, that "chyle, however diversified the materials may be out of which it is formed, whether animal or vegetable, has essentially an identity of nature." And, secondly, "that it is incompatible with animal life, that such active substances (medicines) should be received into the circulation, since milk and other bland fluids have been known, when injected into the vessels, to occasion immediate death."

It has been satisfactorily proven by the experiments of Dr. Marcet and others, that chyle resulting from the digestion of animal food, differs essentially from that derived from vegetable, in composition, appearance after standing, and in disposition to putrefaction, which takes place in three or four days in chyle from animal, and in not less than as many weeks in that from vegetable diet.

With respect to the second assumption "that no substance in its active state can be received into the circulation," it is a fact abundantly proven, that many medicines can be injected into the veins, and that thus introduced into the blood they evince the same specific tendency or elective affinity for certain organs, precisely as when received into the stomach, except that their effects are evinced with much greater rapidity and in much smaller doses. Castor oil, rhubarb, emetic tartar, ipecac, &c., have been the subjects of these experiments, to the safe performance of which, two precautions only are necessary—that the substances be gradually introduced into the circulation, and that they be not too viscid or thick to pass through the pulmonary capillaries, by which the circulation would be prevented and fatal consequences result. Bichat thought that a bubble of air introduced into the veins, would be destructive to life, but more recent experiments have shewn, that if introduced slowly no injury may be apprehended. These experiments have been
generally considered more interesting in a physiological point of view than of importance in practice, as a physician would scarcely think of injecting medicines into the veins, which could be so much more conveniently administered by the mouth or in enemata. But that terrific scourge which has of late years called into requisition all the resources of the profession, and the utmost efforts of human skill and ingenuity, has proven not only the safety, but the practical utility of the copious transfusion of saline medicines directly into the blood. It is thus proven most conclusively, that medicinal substances may enter the blood and that through that medium they are conveyed directly to the organs with whose excitability they are in relation.

It is true the artificial introduction of medicinal substances into the blood, and their operation when thus introduced there, do not prove their absorption into the circulation in other modes of exhibition—still they go far in corroboration; but they are not necessary to the establishment of the fact. Medicines administered by the mouth and by the endermic and intralaleptic methods, have been frequently detected, not only in the secretions and excretions, but in the blood itself. Camphor has been found in the blood of the vena cava. Mercury has been detected by Jourdan and others, in the urine of patients who had taken it; and Dr. Colson has detected it in the blood itself by introducing plates of polished brass, which came out coated with mercury. Another proof that mercury is absorbed into the blood and passes out by cutaneous exhalation, is, that a gold watch worn in the pocket of a person whose system is under its influence will exhibit a white mercurial coating. Iodine has been discovered in the blood and in many of the secretions and excretions, even in the milk of persons that had taken it for some time. Children are often affected by medicines their mothers have taken, as though they were taken by themselves. This is a fact so well known, that some physicians give to the mother the medicine designed to operate on the child. Professor Dunglission in his "General Therapeutics," relates a case in which the most alarming degree of narcotism was produced in an infant by a large dose of morphine administered to the mother. Is this to be attributed to sympathy between mother and child? A very familiar example is the effect of sulphur in imparting its odour to the perspiration and in turning silver coin, knives, &c. worn in
the pockets of persons who have taken it, of a black colour.—Spirit of turpentine is soon manifested in the urine by its smell, &c., and affects the kidneys much more in small doses than in large, because when exhibited in large quantities it proves purgative and is not absorbed. Sulphate of quinine has been detected in the urine by M. Piorry, half an hour after its exhibition. Calomel given in one large dose, say 15 or 20 grains, will generally irritate the small intestines and operate actively as a hydrogogue cathartic—whereas, when administered slowly in divided doses, until 40, 50, or 60 grains have been taken, allowing time for its absorption, the evacuations will consist of thick dark bilious matter, and longer retained without purgation, the mouth and salivary glands will become affected. What imagination vivid enough to explain all these phenomena by sympathy?

Passing by the very obvious effect that the food of cows has upon their milk—the smell, taste and colour of many medicinal and alimentary substances are, constantly, observed in the urine, perspiration and breath—some, as garlic, &c., even when applied to the surface. Dr. Chapman supposes that these substances are all perfectly assimilated, and their characteristic qualities completely lost, before they enter the blood, and that their elementary particles thrown beyond the sphere of the circulation, claim kindred, reunite again, atom to atom, in the secretions, and exhibit afresh all their pristine properties in this new existence. This fanciful supposition is too far-fetched, too unphilosophical too absurd, to deserve a serious refutation. That the presence of medicinal substances is more often recognised in the secretions and excretions than in the blood, depends upon their greater dilution in the latter fluid. The secretions and excretions are the outlets provided in the economy for the elimination of all foreign matter from the blood—hence they are found frequently more concentrated in the former than in the latter. Dr. Christison does not deny a fact so often and satisfactorily demonstrated, as the absorption of medicinal substances into the blood, but still he contends that all medicines operate through the nerves alone.—If the rapid and instantaneous transmission of the effects of some remedies be proof of the agency of the nerves, certainly the very slow operation of others is as strong against it, and affords presumptive evidence that their effects are propagated through some more circuitous route, or by some more gradual process;
that is, by being communicated through the medium of the blood to the organs acted on, or by modifying the exciting power of the blood itself. The methods of medication, by applying medicinal substances to a part of the surface from which the cuticle has been removed by a blister, and by friction or unction, prove the absorption of medicines into the blood. If iodine be applied to the surface for a length of time, the mammae testicles or some other gland become absorbed:—who will attribute this to sympathy? A miner employs quicksilver in collecting minute fragments of gold and becomes salivated:—is this to be attributed to sympathy between the palms of the hands and the salivary glands?

Nitro-muriatic acid rubbed on the surface causes the liver, previously torpid, to secrete bile. Nitrate of silver taken internally, imparts a blue colour to the skin. Not only may the smell of alcohol be perceived in the blood, but it has been found in the ventricles of the brain of a man who had died suddenly after drinking a quart of rum; and it is stated on good authority, that the blood of a drunkard was so impregnated with this inflammable fluid as to ignite and burn on the approach of a candle.

"Is the chemistry of the animal fluids, (says Dr. James Johnson,) to be placed entirely to the account of the nervous system? We have turbid urine, with deposition of uric acid.—A few drachms of soda change the state of the renal secretion, and render it clear: Is this from sympathy, alone, of the nerves of the stomach with those of the kidneys?

Were it necessary innumerable instances might be adduced wherein the operation of medicines cannot be satisfactorily or rationally accounted for, unless by admitting their absorption into the blood.

From a careful and candid examination of all the phenomena displayed in the operation of medicines, it appears to us the unavoidable conclusion is, that while the effects of some are communicated more directly through the medium of the nerves, others are first absorbed into the circulation, but that, except when the impression is most sudden and evanescent, whether the sanguine or nervous system be primarily affected, the other becomes secondarily involved—that is, if the nerves be first impressed, the impression extends from them to the blood vessels
and consequently to the blood; and if the medicine be received into the blood, it not only affects the nerves of the vessels, but is conveyed through that medium to the brain and nerves every where throughout the body.

As in all physiological and pathological processes, we observe the joint operation and involution of the nervous and sanguine systems, in those that are curative also, they are both mutually and reciprocally involved.

The modes of operation of medicines may be summed up as follows: 1st. By a direct and local impression. 2dly. By sympathy of continuity. 3dly. Through the medium of the nerves, or sympathy direct and inverse. And 4thly. Through the medium of the blood.

It would be an agreeable task did our limits admit, to institute an enquiry into the nature and effects of the impressions which medicines make on the system, which we believe are of three kinds, besides those whose operation is mechanical or chemical, viz: debilitation, sedation and excitation—that is, by abstracting stimuli, by diminishing excitability, and by stimulating or increasing excitement; but we respectfully submit to the society the remarks already made, as time will not permit us at present to enter upon the consideration of that interesting and important subject.

ARTICLE II.

Remarks on Hypertrophy, &c.: By M. Antony, M. D.

As truth is the foundation of all moral, so is it of all scientific excellence.—And in no branch of science is this virtue more desirable than in medicine. This is a science which, when its claims are duly considered, demands the most unerring judgment, not only for the well doing of its professor, but on account of the important interests of humanity. Not only comfort, but human life rests its hopes on those truths which are the physician's data for sound reasoning. Without these, the practitioner must be as the mariner in the raging tempest, with helm in hand, but without sun, stars, log. or compass. And as the latter
most probably guides his barque to the wrecking shoal, so does the former without the sound premises of truth, guide to destruction the frail casket of humanity.

These reflections have been suggested by contemplating the love of novelty and the spirit of ultraism which pervade the profession in the present age. One of the great causes which drove our own immortal Rush to untenable ultraism in the simplification of disease, was the falsehood of nomenclature, arising out of the errors of classification. Two elements are essentially necessary to nomenclature, without either of which, the very name given is pregnant with mischief. The first is, a name which shall itself declare the nature of the thing named, and the second is the real facts of the nature of the thing to which the name is applied. Nomenclature, therefore, so long as it contains these elements, is most convenient and unobjectionable: In a word, it declares to us the philosophy of the thing. The name of a disease or a disorder, or any unusual physiological or pathological phenomenon, must, in order to answer the purpose of nomenclature, declare the nature and condition of that disease or disorder, or unnatural occurrence; and the knowledge of the facts which justified the name must furnish us with the whole of the causes, and the present condition of the phenomena. It must declare the state of the system, or that part of it concerned, and the causes operative in the production of that state. If then a name of phenomena, which result from one cause or set of causes, be given to those phenomena which have resulted from another, we find ourselves at once plunged into all the dangers of erroneous diagnosis; or if we fail to discover our error here, we are soon overwhelmed in the more immediately dangerous one of erroneous prescription; for our prescriptions must generally bear a relation to causation, as well as to the present phenomena.

We perceive in the Clinical Lectures of M. Lisfranc,* the term hypertrophy, used synonymously with metritis. For example, “Chronic metritis, or simple hypertrophy of the uterus.” The state which M. Lisfranc alluded to by this name, is well defined to be a mere increase of healthy tissue in distinction from schirrous and the white tissue resembling, but very different from it. This state “is generally very insidious in its progress,

*See Southern Medical and Surgical Journal, page 303.
especially about the critical age," but less so as we approach the
greater irritability of earlier life. "Touching is always a pain-
ful operation, and the consistence of the uterus is found normal,
though rather soft. To the feel, it gives the same impression as
an uterus in early pregnancy, or shortly after abortion, and is
sometimes as large as the head of a six months' fœtus," and
sometimes much larger, and generally, perhaps always main-
tains very nearly the shape of the uterus when enlarging in the
different months of pregnancy. But so soon as the name "hyp-
ertrophy" is given to it, the value of those truths which entitle
it to some name is lost, because hypertrophy means a state of
deprivation from ordinary physiological, or rather anatomical con-
dition, consisting of an increased growth of the hypertrophied
part, differing however in causes and condition from what we
should call metritis. It cannot therefore fail, if confided in, to
lead to much mischief in all diagnosis, and therapeutics, and
consequently in prognosis. If compared with hypertrophy (of
the heart for example,) it will be found essentially different.—
Nor is it unimportant to mark the distinction; for there is some-
thing of obscurity, nay much, in the pathology, (if I may so speak
of hypertrophy,) which repels enquiry into the cause, and its
manner of producing its effects.—And without mere accident, the
indications of cure must be defective in proportion to the error
in etiology. This is, but for chance, just as sure as that effects
depend for their production on their causes; which should be con-
sidered, as it is, self-evident. It is therefore our purpose in this
paper, to illustrate more plainly and definitely, the subject of hy-
pertrophy.

Hypertrophy should be distinguished from swellings—the ef-
flect of recent, subacute, or chronic inflammation. These cause
swellings, acute or chronic, in certain parts, attended with in-
creased sensibility, redness, &c.; as the necessary consequents
of a law of irritation, whereof increased fluxion is the result.—
The greater the constitutional irritability, the quicker these swel-
lings are developed, according to the same law; and the quicker
they are developed, the greater is their sensibility. Hence, what
have been by M. Lisfranc called hypertrophy of the uterus, are
generally very insidious in their progress about the critical age,
and are, cet. par. less so in earlier life. But the slower the pro-
gress of the case, the less is the sensibility exalted; consequent-
ly, the tenderness to the touch does not so readily characterize the disease.

The acute case of this kind affecting a viscus, is a proper phlegmonous inflammation—and will be found more rapid and strongly marked not only in early life, under the same circumstances otherwise, but also in the sanguineous temperament, because in this the hematosin of the blood is greater in proportion to the other ingredients, and the circulation therefore produces greater excitement in just proportion, as evinced by the peculiar irritability of that temperament under any exciting cause. This true phlegmonous inflammation of a viscus, is one extreme; and as we consider this nature becoming, in obedience to the whole influencing circumstances of the case, as age, temperament, &c., &c., more and more chronic, it approaches the other extreme, as in advanced life, phlegmatic temperament, &c.—And thus are produced chronic phlegmasiae: but they are all phlegmasiae still.

We would illustrate hypertrophy in the following manner:—
All the actions of health are merely series of excitements. But so long as these actions do not exhibit the characters of disease, they are properly considered physiological.

If by any means these excitements become so increased as to cause an increase of growth in any organ or tissue, stopping short however of morbid phenomena, except increased size, such increase of growth should be called Hypertrophy.

This is a word of Greek etymology, πετρις and πετρον, and literally means super-nutrition, unnatural, or excessive accretion. Nor is there good reason in necessity or elsewhere for altering the literal signification. It is fairly applicable to the whole system, or any of the organs which enter into its composition, or any particular organic system.

A muscle is enlarged by use to double its natural thickness. This is sometimes observable in the features of the face, often in the legs of dancing masters and pedestrrians, and almost always in the biceps flexor cubiti and other muscles in the arms of axe-men, blacksmiths, &c. This is a growth of the natural structure, effected in the same manner that the arterial system, by acting, increases its power of action during the first half of life, until it exceeds the veinous resistance, and throws the plethora from itself into the veins. Exercise of a faculty exalts and perfects that faculty. It is so, not only in the corporeal, but al-
so in the mental faculties. This enlargement of muscle may be considered a hypertrophy. It is an enlargement of the natural structure beyond what is natural or ordinary, and which, as a peculiar effect, has its peculiar cause. This cause is action. For if instead of giving the organ increased action, its actions be restrained by avoiding exertion, or by compression, as by a bandage, &c., the organ not only fails to be exceedingly developed, but actually becomes atrophied. The brain of Baron Cuvier may be considered as hypertrophied, and by the same cause, great exercise, as every one must acknowledge who is acquainted with the immense intellectual labor of that man.

The heart becomes hypertrophied in the course of a long time, from the occasional, though more or less frequent excitement it undergoes from the exhilarating passions, &c., and more quickly when produced by causes which are more steadily in operation, whether mental or physical; as by the exciting passions, or by daily liberal potations of wine and other fermented liquors.—Hence the great frequency of hypertrophy in apoplexies and paralytics. Here then is a very obvious difference between hypertrophy and that swelling which is produced by the fluxion consequent on irritation; but the difference is still farther remarkable: this tends to phlegmonous inflammation, and through it, to some of its terminations, according to the peculiar circumstances of the case; as suppuration, schirrous, gangrene, &c.; whilst hypertrophy has no tendency to either of them.

These states may be still farther distinguished by the remedial measures appropriate for each. If you would palliate hypertrophy, or prevent its ill consequences; or if you would hope for its removal you would rely on withholding its peculiar causes; and even where applications might be practicable, go to the extreme opposed to its causation; that is, not merely suspend exercise, but compress the organ, or otherwise promote the action of the absorbents of the part: and here is the sum of resources in a remedial point of view. But in the case of phlegmonous inflammation, when the increased action has been the effect of vascular irritation, we have at command the various antiphlogistic means which operate mainly by lessening the vascular action of the centrifugal powers (the heart and arteries), as well as promoting the action of the centripetal, (or absorbents,) the removal of local irritants, &c., all tending to resolvent effect.—
Here will be found causation which is approachable with therapeutic means; and we should examine, study and detect, that we may attack it.

These considerations lead us to the conclusion, that M. Lisfranc's cases of hypertrophy of the uterus, are to be considered more properly phlegmonous inflammations of that organ; and that they are in that state and period in which they exhibit swelling, with more or less increased tenderness, heat and redness, and that they demand the removal of all causes of irritation in the part, as well as all obstructions to a free transmission and return of circulation. These may be very chronic, according to the peculiarities of the general system, the habits of the individual, the previous treatment of the case, &c. &c., and may tend to any of the other terminations of inflammation than that in resolution; as suppuration, or the white tissue so much resembling schirrus. We need not expect to compare it in all respects with a phlegmon situated in the cellular tissue for example, for like the liver and the lungs, the tissue of the uterus is very peculiar, and this peculiarity, like that of the other organs just named, is calculated to come into the chain of cause and effect, and produce its proportion of peculiarity in the resulting phenomena. Thus we see these tumors last sometimes for years, and sometimes for almost an age—and again, we see them degenerate into those conditions which have their other names, and thus are produced ulcerations, enormous white enlargements, &c. &c.

It is not a little remarkable, that a man of M. Lisfranc's intelligence and experience should have allowed an error thus introduced, as it appears to have been, by a mere name, to have gone its wayward course in all the succeeding details of medical philosophy, and finally into a practice most inert and deficient in some respects, and most imprudently bold in others, when considered in relation to true cause and pathological condition.

There is, as we have often observed heretofore, no error more prolific of mischief, passive or active, than that of connecting effects with causes which did not produce them. To this error we must consider M. Lisfranc indebted for his failure in relation to therapeutics in the disease in question. He has described a true sub-acute or chronic inflammation of the uterus, under the appellation of "simple hypertrophy," which means merely "an
increase of healthy tissue:” and so little has been known of genuine hypertrophy, that the word has carried with it in its application to metritis so much of its own deficient etiology, as to obscure the view of causation in this latter affection. Thus it is that his prescriptions appear certainly to be the result of partial observation of this disease, with an eye jaundiced by hypertrophy, and not that legitimate deduction from the whole premises which constitute the fundamental philosophy of the case; for these include at least the whole causation, and the true pathological condition.

We have before alluded to the treatment rationally determined for genuine hypertrophy; we will now endeavor to show the difference between these affections by exhibiting the demands of true metritis. It is passing strange we say, that even the action of some of his remedies had not informed M. Lisfranc more of the causation, as well as the pathological state in this disease.—But whilst he considers, and very correctly too, that absolute rest is amongst the influential means of effecting a cure, and that the patient should not be allowed to walk even to her sofa, nor move roughly in bed, he at the next instant declares “these precautions are recommended in order to prevent the irritation kept up by the friction of the uterus against the adjoining parts.” Well may his discerning annotator ask the question, “Is this friction really produced, as M. Lisfranc believes, by ordinary movements?” No. Were this the cause of the existing irritation, the prescription would then bear a good relation to it. But this being not the fact, the prescription, though in part necessarily demanded by the rationale of the case, is inefficient alone, being only secondary in importance at most. Hence the necessity for the next error, depletion for its revulsive effect, which although sometimes perhaps correct, is not generally so, because there is an abiding cause, the removal of which is demanded by the fair reasoning in the case, and with which, the effects will almost always cease; especially if the other appropriate, more prudent and safe auxiliaries be simultaneously and consecutively in operation: and not only so, but it would be in opposition to all sound reasoning to expect a given effect to cease, whilst its causes continue in operation.

We have thus instanced one or two of the therapeutic errors arising out of views of the causation but too limited. This
train of errors continues on the same principle to the prescription of and reliance on antispasmodics, if the nervous system be found to suffer—the use of tepid baths—tepid enemata, because the bowels tend to constipation, and the fecal collections increase irritation—tepid vaginal injections three times a day with linseed fomentations—a small elastic canula introduced with caution for the administration of injections, to prevent wounding the diseased parts—dry cups—moxas—blisters and issues, as revulsives to the pelvis—regimen, as avoiding coffee, reducing the quantity of food to half the general allowance—exercise at the menstrual period—leeches to the os tincæ, to stimulate the vessels and bring about the removal of superfluous matter—frictions with iodine—douches de vagin, &c. &c.

Does M. Lisfranc or any one else believe that this metritis is produced, continued and increased, by no particular cause or causes? Did it merely arise from an increase of the healthy growth of the part by nutritious accretion? Or if according to his description of the facts of the case, which constitute chronic metritis, irritation exist, did that irritation arise spontaneously, making the first link in the chain of morbid phenomena, and therefore only needing revulsive powers? Surely this cannot be believed by any one. Even hypertrophy must have its causes; but they are in good relation with their effects, which exhibit no more of the characters of inflammation than did Mr. Daniel Lambert, whose adipose tissue was so hypertrophied that although but five feet eleven inches high, he arrived at the enormous weight of 704 pounds, with a girth of body of nine feet four inches—and of the leg of three feet one inch; and who, though convivial, was temperate in all things, being a cold water drinker, and eating only of one dish at a time. He scarcely knew what indisposition was—was cheerful, intelligent, free in respiration, not disposed to drowsiness, was able to walk up stairs with great ease, and believed, says his biographer, that he could walk a quarter of a mile. So also must metritis have its causes, and these must be in good relation with their effects.—What then are these effects which make up the phenomena of the disease, whether acute or chronic? These phenomena are swelling, tenderness to the touch, pain and heat, (if acute,) and doubtless redness, & tending to some of the terminations of inflammation. And here, we doubt not, may be found the true source
of those ulcerations of the os tincæ and cancerous degenerations for which M. Lisfranc has so freely and frequently amputated the os tincæ, to be that the disease, being considered hypertrophy, has been subjected to a treatment, (if any at all,) but partially adapted to its necessities. Here the nobler talent of the surgeon should have been displayed, in preventing these or curing them when produced, instead of amputating. Any tyro can amputate a leg, but the best surgical talent is often needed for the cure of that lesion which seems to render amputation necessary.

Differing essentially then from hypertrophy, chronic metritis is explicitly this, that the circulation through the blood vessels, both veins and arteries become obstructed by the undue pressure of the displaced uterus on them. This being the case, no anatomist who will contemplate the immense and curious distribution of arteries to this viscus and its appendages,* and the corresponding veins and lymphatics, will be surprised at the appearance of that irritation and tumefaction which must be consequent to such obstruction. Nor will any surgeon be astonished at the increase of size, tenderness to the touch, &c. &c., which are acknowledged characteristics of this disease. With this view then of cause and effect in this case, what curative indications are rationally suggested? They are—

1st. To remove the impediment to the free transmission of blood and lymph.

2d. To correct the effects of this obstruction.

In the fulfilment of the first indication, we are unavoidably led to enquire into the cause of obstruction of circulation, that we may direct our attention to its removal. Had cold been the cause of this obstruction, then indeed most of the means prescribed by M. L. would have been in relation therewith; as revulsion, avoiding irritating causes, &c. &c. Nor would these have been less applicable to such a case produced by lacerations and other kinds of violence inflicted on the substance of the uterus: but these causes are rarely in proximate connexion with chronic metritis—their effects being generally acute, although there may be rare instances of its existence from this cause. Yet if M. Lisfranc has had these or similar causes in view, in the chronic metritis described by him, under the name of "simple hypertrophy," he has greatly erred in omitting a cause, twenty, perhaps

*See Tiedeman's Plates.
a hundred fold more common, which omission must, as it actually does in his details, extend a most important influence throughout the whole of the subsequent views taken in the case. In truth, there is generally, on fair and thorough investigation of these cases, no such cause alleged by the patient. If she state that she has taken cold, it will generally be ascertained that this statement is founded merely on the fact of some menstrual irregularity—commonly a retained, suppressed, deficient, retarded or painful menstruation, of which she believes cold the only competent cause; but to which she had suffered no particular exposure. On diligent enquiry it will be found that she suffers barreness, fluor albus, &c.; spinal irritation, in the lower lumbar or dorsal vertebrae, sacrum, or whole column will be very commonly found in connexion with hysteria and other nervous phenomena—nervous symptoms with the nervous temperament, hepatic with the bilious, and pulmonary with the sanguine; and these variously mixed and diversified according to the mixtures of temperaments, and the joint or collateral influence of other accidents, &c.; but these are to be looked on as effects or symptoms, and not as causes. Whilst therefore they need corrective means, we are still impelled to the investigation of cause. On farther inquiry it will be found that she has suffered menstrual irregularity in some respect, preceded by abortion, difficult labour, too soon quitting child-bed, over exertion, a fall, the use of corsettes, &c. and that she suffers pain about the sacro-vertebral junction, the sacrum, the ganglion impar, the round or broad ligaments, burning, or obstruction, or incontinence of urine, or constipation from obstruction of the rectum, or tenesmus or dysenteric distresses from irritation of the part, &c. These and the like, point to the fact of uterine displacement, and justify the touch. On this mode of enquiry, the displacement will be found to exist, and the uterus generally lower down than natural, with its lower orifice towards or at the vertibule, or fossa scaphoides; and often in cases which have been long existing, accompanied with various degrees of tenderness, mobility, &c. This fact discovered, we have at once a cause adequate to the production of all the phenomena, primary or secondary—a cause immediately proximate to the effect, the removal of which is the object of our first indication; a cause at once calculated to produce, under ordinary circumstances, just such effects as we observe, and a
cause, the removal of which will be speedily followed by the abatement of all the local phenomena.

The replacement and retention of the uterus in its proper site become therefore the legitimate prescription; nor is there within the whole range of remedial means, one more uniform in accomplishing the intended object. So soon as the prescription is fulfilled, if the case be not very chronic in its nature, the arteries which are abundant, are enabled to effect a free transmission of the blood; and the veins and absorbents commence the work of resolution. This is all accomplished with surprising rapidity, on the good retention of the uterus and a well regulated regimen.

Frequently in the course of a week or two, have I observed these enlargements of the uterus, which had been of many months' duration and of considerable size entirely disappear. But most commonly the process is tedious, requiring many weeks, and sometimes many months for its entire removal; and occasionally the assistant means of alterative medicines, as iodine, mercury, antimonials, guaiacum, &c.

The bilboquet pessary, made of soft elastic material, we have proven by the experience of the last twenty years, to be the best retentive mean for the uterus; not operating, as Lisfranc believes, by promoting absorption on the principle of compression; but simply by retaining the uterus so as to liberate the vessels, and allow them their free action. It is true, that from the great enlargement of the uterus, and the extension of the disease to the circumambient attachments, the uterus is sometimes so immovable, as to require very considerable pressure by a pessary made more firm and impacted between the perineum and the os tincae; but even this cannot act mainly by promoting absorption on the principle of pressure; as its pressure is only exerted on one point.

Thus have we imperfectly accomplished the hasty sketch of the nature of hypertrophy and of metritis, which we designed; and we hope that the practical bearing of the errors in nomenclature and reasoning, may at least be so apparent, that humanity may not suffer from such errors.

In conclusion, it is but justice to remark, that so far as the observations we have made bear on the instructions of M. Lisfranc, the writer has been actuated by no motive or feeling apart from those directed to the cause of truth and humanity. It may be
Remarks on Hypertrophy.

objected that the arraignment of unpublished doctrines and instructions of an individual for the purpose of exposing and correcting the errors of the same, is unjust and illiberal.

So far as we are informed, M. Lisfranc has never published the instructions above alluded to, in a book; but they are doubtless published annually in a more impressive and effectual manner—that is, to an immense class in his course of extemporaneous clinical lectures, and with an influence of character calculated to inspire the fullest confidence in the truth and accuracy of every word which falls from his lips. These instructions are taken down by most of the industrious, faithful and zealous hearers, and thus are disseminated those instructions, in a way best calculated to give them their full influence, whether good or bad, on the practical details of the profession. We hold him therefore, at least, not less accountable for error thus inculcated, as it is alike calculated to retard science, and operate injuriously to humanity. Nothing is more calculated to regulate and improve genius than scrupulous watching and diligent chastisement; for, as with the percussion of flint and steel, its brightest scintillations are excited by attrition.
PART II.—REVIEWS AND EXTRACTS.

Treatise on the Radical Cure of Hernia by Instruments, &c. &c.


The American public has been much agitated on the subject of Trusses, recently invented for the radical cure of Hernia or rupture. Two or three years ago, a Mr. Stagner of Kentucky, it is said, accidentally relieved himself permanently of a rupture, by placing a piece of wood between the spring of a truss and the skin covering the protruded bowel. He subsequently modeled a block for which he obtained a patent, established agencies in several States, and realized from his invention an immense fortune. We at a distance from these operations, anxiously looked for a professional notice of this truss, in some of the periodicals of the day; but it was in vain. During the winter of 1834–5, several of Stagner's instruments were placed in our hands by an agent, and after their application in six or eight cases without benefiting them in the least, they were laid aside, with the conviction that further improvement was needed to effect what was promised by them, viz.: a radical cure. One of our patients, the Rev. Mr. Reid, then of this city, added a new spring to Stagner's block, for which he obtained a patent, and submitted it to the Medical Societies of Georgia and South Carolina.—

The following are extracts from the report made by the committee appointed in this city.

"The committee have had placed in their hands the certificate of two of Mr. Reid's patients, and the statements concerning the application of the Truss to five others, making in all seven cases. From some of the patients residing out of the city, we have been able to examine and collect the particulars of but 5 cases out of 7, to whom the truss has been applied. Mr. M: who was ruptured on both sides, believes himself permanently cured on one. He has left off the truss for more than 24 hours, and notwithstanding considerable efforts were designedly made, no protrusion took place."

"Mr. Martin, now in his 95th year, and well known as the oldest inhabitant of Augusta, has been afflicted with hernia for more than 40 years and, after having tried every truss that he had ever heard of, expresses his entire satisfaction of the relief afforded, and thinks he yet may be cured by wearing the one applied by Mr. Reid."

"Mr. S. after wearing the new truss about six weeks, writes—'I am now satisfied of the benefit it will afford the afflicted. It has given me relief, and I am now quite easy while wearing it: and would recommend it to any person afflicted with hernia.'"

"The negro man Isaac, belonging to Mrs. Rowell, has already been presented to the Society, and all have had an opportunity of examining him personally, and of judging of the operations of the truss in his case."

"The fifth case, which we have investigated, is that of the Inventor and Patentee himself, who has been afflicted with inguinal hernia on both sides,
on one for more than 35 years, and on the other for several and, after experiencing the defects of the trusses, which had been recommended to him, is now relieved, by the one which he has invented or improved."

"Of the five patients that we have examined, one believes himself entirely cured on one side; and all are satisfied of the truss’ maintaining its proper situation independently of any other apparatus and of the entire relief it affords.

"The greatest improvement, however, which occurs to the committee, is, that this truss operates in maintaining its position without the aid of belt, strap, buckle or any other appendage whatever, the chafing and disagreeable effects of which, cause patients so generally to complain."

"We believe Mr. Reid entitled to full credit for all he claims in his patent; that the Independent Spring Truss is an improvement; that it operates and retains its situation, when applied, independently of any other apparatus; that it does prevent the protrusion of the abdominal contents; that it thus affords relief, and that if any other truss will produce a permanent cure, this one will."

Mr. Reid’s truss was also approved by the Medical Society of Charleston.

In a recent conversation with Mr. R., he admitted that during a visit to the north, he had experienced some difficulty in having his instrument properly made, but that he had finally succeeded in Baltimore—his agent here, however, is still unsupplied with them.

The name of Dr. Hood has also been associated with that of Mr. Stagner, as an inventor of improvements to the truss for the radical cure of hernia. And finally we have that of Dr. Chase, who seems to have devoted himself almost exclusively to the subject of hernia, and the product of his labour and inventions is contained in the work, the title of which is placed at the head of this article.

Dr. Chase’s publication has forcibly impressed us with one idea—that he is honest in the improvements now presented to the public. Unlike hundreds around him, he has come forward and candidly submitted his inventions to his professional brethren, the proper, if not the only tribunal capable of pronouncing a correct decision upon them. The same credit we have given to the Rev. Mr. Reid. En passant, what would be the effect of placing Chase’s block upon Reid’s spring?—Might not the “Independent Spring” and the “Surgeon’s Truss” be combined with advantage?

The Treatise on the Radical Cure of Hernia by Instruments, is dedicated to Drs. R. Coates, Ashmead and Parish, members of the committee of the Philadelphia Medical Society, appointed to investigate the subject of the radical cure of hernia. It is designed for those affected with hernia or rupture, and the language is adapted to the comprehension of every one—it is a popular and at the same time a scientific work. It is embraced in eleven chapters, and illustrated with numerous figures.

Chapter I. contains a minute and popular description of the
various ruptures occurring in the human body. We have read this chapter with much pleasure. The description of inguinal, scrotal, femoral and umbilical herniae, is decidedly the best we have ever seen. His observations concerning the careless manner in which trusses are daily applied and constantly worn, are confirmed by every practitioner. It is true, "a large majority of those who die of hernia, or are subjected to severe surgical operations for its relief, are persons in the constant habit of wearing the trusses heretofore employed." His remarks too about patients wearing the truss day and night, will be responded to by every one knowing the importance and even the absolute necessity of keeping the intestine within the abdomen, when a radical cure is proposed.

Chapter II. is taken up with the symptoms of hernia not strangulated.

Chapter III. contains the directions for reducing hernia. We would suggest in addition to the means mentioned in this chapter by the author, the good effects resulting from the evaporation of ether. As an application for reducing strangulated hernia, it cannot or is not so liable to be abused, in the hands of common people as cold directly applied. It never produces mortification.

Chapter IV. is on the retention of hernia by trusses. Included in which we have the different kind of trusses heretofore invented, and the different parts composing the truss—page 52, line 12, the word "ruler" should be rule. The most important section of this chapter is the one on the materials for pads or blocks. We agree with Dr. Chase in condemning the india-rubber or gum-elastic, as a substance entirely inapplicable for this purpose. We have seen a case where it produced not only a blister but an ulcer. Our author, of course, selects a block of wood.

Chapter V. is the history of the progress and present state of the improvement in the construction of wooden truss-blocks. In this, we have mentioned, the names of Stagner and Hood, and also an account of our author's association with the latter. It concludes with a description of the wooden blocks invented by Dr. Chase for the radical cure of inguinal, femoral and umbilical herniae.

Chapter VI. on complete trusses—containing the explanations and figures of the application of Dr. Chase's truss for the different kinds of rupture.

Chapter VII. contains the modus operandi of the instruments for the radical cure of hernia. This is the most interesting and important chapter in the work before us. In what manner does the instrument operate in effecting a radical cure of hernia? Mr. Stagner and Dr. Hood attributed it to adhesive inflammation, excited by the pressure of their instruments upon the neck of the
Dr. Chase thinks, that though the pressure of his truss produces redness of the skin in the great majority of cases, it would be premature in him to attempt to decide, at present, how much the production of local irritation accelerates the radical cure, in the treatment of hernia by wooden blocks. The committee appointed by the Philadelphia Medical Society, expressly state that the excitement of local irritation was a matter of "secondary importance." And Dr. Chase addressed a letter to Dr. Reynell Coates, the chairman of said committee, on this subject. Dr. C. in his reply, has reviewed the different modes which have been proposed for the radical cure of hernia. His conclusion is, "that in most cases of the radical cure of hernia by means of trusses, the neck of the hernial sac is obliterated either by adhesion or more rarely by absorption. In reading the lengthy answer of Dr. Coates, we were not a little surprised to find no notice of the method recently proposed by Gerdy of Paris, for the radical cure of this affliction. We allude to the operation of pushing the skin into the place occupied by the herniary tumour, and permanently securing it by exciting adhesion. Several successful cases from this new operation have been reported in the journals of Paris, and we think they have been noticed in Johnson's Review.

Chapter VIII. on the manner of applying the different instruments, and some precautions necessary to be observed in using them. The remarks contained in this chapter are judicious and excellent. We learn from it that Dr. Chase has applied his truss with good effect, on a child only six weeks old, and frequently to those of the age of six months.

Chapter IX. is taken up with cases and the results obtained by the use of the improved instruments. The cases contained in this report are not selected, but are those only which have been most regularly noted. They number 32, and to judge from the entire and complete success obtained in many of these cases, all must now admit of the radical cure of hernia, and that Dr. Chase's truss is decidedly the best yet invented to effect that object. This chapter concludes with a tabular statement of 100 cases of hernia.

Chapter X. is occupied with the diseases mistaken for hernia. This is not an uninteresting chapter. Not only patients, but too often for the good of the profession, men professing to be doctors, if not surgeons, are deceived on this subject, and many an one has worn a truss who never had a rupture.

Chapter XI. the last, is on the subject of hereditary hernia; and from the author's experience he believes this to be a cause predisposing to this affection.

In concluding this lengthy review of Dr. Chase's Treatise on the radical cure of hernia by instruments, it is unnecessary to add more to what has been already said, to recommend it to every
Remarks on the Chronic Fluxes of the Bowels: By N. Chapman, M. D.

Not a little diversified are the symptoms of this pathological condition, though in nearly all instances the bowels are very irritable, and consequent-
ly excited by the slightest causes. The stools may be small and of mucus, sometimes tinged with blood, or containing fragments of lymph, or are glairy or gleety—or exceedingly copious, and of a light clay colour—or dark and granulated like coffee grounds, or resembling greasy water, and of a cadaver-
ous odour—or are seemingly of putrid chyme, or pulpy, mixed with ingesta, 
very frothy, and of divers hues, though usually of an ash or slaty aspect, and are attended by more or less tormenta and tenesmus or straining, or come 
away at once in a gush, or by a sudden ejection or squinting without any un-
easiness.

The mode of evacuation depends much on the character of the stools—slow 
and difficult when they are small and tenacious, and the reverse if large and 
watery. Little appetite exists, or it is very capricious, and the food taken is 
seldom thoroughly digested. The tongue is heavily furred in the centre and 
at the root, with florid tip and edges, or red and raw throughout, as if scalded;
or with scattered superficial ulcers on it, and the inside of the cheeks and 
lips, or down into the fauces—or it is pallid, attenuated and flaccid. The 
skin is dry, furrowed, and of a dingy white or sallow, or leaden hue—the 
eyes sunken, with a shrivelled and meagre expression of countenance. — 
Tenderness of the abdomen is felt on pressure, though not uniformly, and it 
is tumid or the contrary, lank, relaxed, or even collapsed. Borborigmus is 
very troublesome. The pulse is often contracted, hard and accelerated, 
with an irregular febrile movement, especially in the evening—but it may be 
natural, or very diminutive and feeble, with low temperature of the surface, 
or while the extremities are cold, the belly is preternaturally hot. Emacia-
tion advances rapidly, with corresponding debility, till finally the individual 
sinks from absolute exhaustion, death being preceded by ecema of the low-
er limbs, aphæ of the throat and mouth, redness and ulceration around, or 
within the verge of the anus, and the Facies Hippocracta strongly marked. 
The duration of an attack is very various, from a few weeks to months or 
years, subject, when long continued, to alternate remissions and exacerb-
ations.

Chronic fluxes may be an original affection, or the consequence of an acute 
attack, protracted by neglect or ill management—and when of the former 
or primary nature, are assignable to many of the causes of the latter, opera-
ting less actively.
They are undoubtedly induced by malaria, whether the vitiation of the atmosphere be owing to the effluvia of vegetable or animal decomposition, or other offensive impregnations—scarcely less so by the excesses or variations of temperature, particularly moist, austere weather, and by the occupancy of cellars and other damp confined places.

As much, perhaps, may be ascribed to the direct irritation of the primary venereal effluvia from alimentary or drink, such as tainted or tough indigestible meats, sour or mouldy bread, or crude or decayed vegetables or fruits, the intemperate use of ardent liquors or bad water, putrid, or charged with adventitious matters.

They result, too, from the long persistence in purging with drastic articles, as is practised by some for the removal of diseases, and above all dropsey, of which I have seen repeated instances, and by whatever indeed is calculated thus to worry the bowels into a state of exasperation, or to destroy their tone, or otherwise throw them into derangement. It is in this way, I have little doubt, that the horrible abuse of mercury throughout a considerable extent of our country concurs in the production of similar mischief.—Nothing is more irritating to the alimentary tube, the liver, and to the whole of the abdominal viscera, than this very article, unless cautiously regulated—and when we advert to the indiscriminate and exorbitant employment of it by confessedly too many of the practitioners in the region to which I have alluded, the conjecture advanced, seems scarcely to require any confirmation.

Nor must the exanthemata be omitted in the enumeration of causes.—These have their origin in the mucous membrane of the alimentary canal—and the translation to the skin not perfectly taking place, leaves behind an irritation productive of this effect, as is strikingly exemplified in scarlatina, measles, &c. Chronic eruptions of different kinds receding from the cutaneous surface, occasionally operate also in the same mode, two instances of which I have seen.

Certain sections of our country are singularly liable to the disease, and it prevails to a great extent, especially at or near Richmond and N. Orleans. Cases of it I have annually from each of these cities, and am assured that it is one of the most terrible of their maladies: no age, sex, or condition of life is entirely exempt from it, though it rarely occurs before puberty. What occasions it, is not ascertained: nothing peculiar about Richmond exists to which its production can be referred, but at New Orleans the popular notion connects it with the use of the turbid waters of the Mississippi. Never having seen a case in the early stage, I am not able to describe it from any knowledge of my own, but I learn that it usually commences with the symptoms of dyspepsia. As it has come before me, the disease was far advanced, and only distinguishable from more common diarrheæ, by less emaciation, the flesh and integuments being rather flaccid than wasted, and by a peculiar sallowness of skin, more of the light lemon than the orange hue, and by the number and copiousness of the discharges, which invariably resemble pale clay or Fuller's earth dissolved in a quantity of water.*

Chronic fluxes are moreover of a secondary nature, from the extension of irritation to the bowels of other diseased organs, as the stomach, liver, spleen, pancreas, kidneys, uterus, the lungs—and I have seen it occasioned by hemorrhoidal tumours or ulcerations at the termination of the rectum.

* Diarrheæ of a somewhat different kind appears to be hardly less frequent among our Eastern population, especially that of Boston, the source of which is as little intelligible. But the individuals whom I have attended with it, in their passage through this city to the South, all concurred in stating that the attacks were ushered in as dyspepsia, followed after a long interval, by the bowel affection, then cough and other pectoral symptoms, marasmus, hectic fever, &c.
No perplexity can prevail in the recognition of diarrhoea. It were highly important, however, in a therapeutic and practical view, could we discriminate the several states of the bowels on which the discharge depends—but I am apprehensive we cannot do this with any uniformity or precision. Neither the symptoms nor the appearance of the stools may be relied on under all circumstances. Generally, however, inflammation is denoted by pain in the abdomen, hot skin, corded, frequent pulse, and by slimy, membraniform, or bloody dejections. But on the contrary, how often is there pain without phlogosis, and ulcerations and other lesions are to be met with, where no expression had been given by this or any more distinctive sign of their existence?

Genuine mucous or serous discharges, though ordinarily indicative of simple irritation or phlogosis, are occasionally found in every variety of case—and even the most copious effusions of blood, the common product of phlogosis, may be owing to merely a turgescence, or perhaps relaxation of vessels.

Gleety stools usually denote a subdued state of previous inflammation—though not always, they sometimes proceeding from an ulcerative condition. Chymous dejections are more uniformly significant of an imperfection in the digestive powers of the colon, or in other words, the process of fecation.

Evacuations thin, greasy, and of a cadaverous odour, mixed with sanious, purulent, or fibrinous matter, are to be deemed, in my opinion, the least unerring criterion of organic mischief. But this test is also fallible, having seen extensive lesions of the same kind, with stools of the earth-like solution I have just mentioned.

In a disease so various in its character, and occasioned by such diversity of causes or conditions, the grounds of prognostication must necessarily be vague and uncertain. Not much more can be determined, than that in proportion to the duration and severity of the attack, the degree of constitutional disturbance, emaciation, and debility, is the prospect of a cure or otherwise. What is to be deduced from the aspect of the stools, I have previously stated. Cases with mucous or gleety discharges are usually the most curable, and those earthy or watery, and of cadaverous smell, the least so.

From autopsic inspections, evidence is afforded of inflammation in its several gradations, in the mucous coat especially, confined to a part, or embracing a considerable extent, and sometimes every variety of organic injury, from the simplest to an entire change of structure, the most common of which, however, is ulceration. This consists of a single ulcer, or a few only, though often innumerable. Cases have repeatedly been examined by me, where it was as impossible to count them as the stars in the firmament. Large portions of the bowels are, indeed, sometimes found cellulated like a honey-comb. The ulcers are of various sizes, from that of the head of a pin to an inch or more, and have a close similitude to the venereal chancre.—Connected with these or independent of them, mere vegetation, or fungous excrescences are occasionally to be met with. I once opened a subject who died of the disease, where a fungoid growth in the colon was discovered, nine inches in length, two in breadth, and half an inch in thickness. But in other instances, the mucous surface seems to be sealed, as it were, here and there a vesicle or superficial sore, or more decidedly apthous, in the whole, analogous to the state of the tongue, mouth, and fauces, which I have noticed.

An extreme attenuation of the intestinal parietes is a further occurrence. Bonnet tells us that he has seen the bowels as thin as a cob-web; and, in one instance, I found the ileum and part of the colon so wasted away, that with a delicate arachnoid peritoneal covering, a few fibres of the muscular tissue were only left, pallid and widely separated. This atrophy oftener happens than is suspected. Moreover, though sometimes the mucous coat may appear sound, tubercles are concealed in the cellular texture under it, by which it is irritated to undue secretions, precisely as such extraneous bo-
dies in the same tissue of the lungs provoke their mucous surface to inordinate discharges. But though some of these lesions are usually to be detected, it can scarcely be doubted that the intestinal fluxes may prevail independently of them or any others appreciable.

Morgagni has transmitted the history of several cases without the slightest phlogosis, the individuals sinking, as it were, in a very short time, from the exhaustion of excessive serous effusions, in one of which, forty pounds of limpid fluid were evacuated in a day. The same kind of testimony is borne by Louis, who states that he had several times found the mucous coat only changed by becoming preternaturally pale, flabby, and relaxed. Confirmatory of all this, it is reported by Andral, that he has frequently noticed the mucous membrane of the intestines, especially in children, perfectly white, with its natural thickness and consistence, both in acute and chronic diarrhœa. But it is highly probable, in most of the instances where the bowels have been represented as exempt from organic derangement, that the irritation productive of the discharge was sympathetic only—derived from contiguous or remoter parts, one or more of the abdominal viscera or the lungs, these organs, or some of them, being often found deeply affected.

Of the diarrhœa which I have represented as incident to sections of our southern country, the prominent appearances are, so far as I know, softenings of the mucous texture, an infinity of ulcers, and, perhaps, diminution in the size of the liver. Three subjects only have I had opportunities of inspecting, and such were the lesions chiefly observable. The liver in two of them was exceedingly reduced, and of a dingy white—in another, the stomach exhibited a partial ramollescence, and, in the third, with extensive ulceration, principally of the ileum, the mesenteric glands were enlarged and indurated.

The pathology of the disease might, perhaps, be sufficiently collected from what has now been detailed, and my further reflections on it will, therefore, be very brief.

Touching the immediate seat of the affection causing these fluxes, there is some division of opinion. By some, it is insisted that constipation is uniformly dependent on phlogosis of the small intestines, purging only occurring when the colon becomes implicated. True in the main, this is erroneous as a universal proposition. Even irritation of the stomach, much less of the upper portion of the intestinal tube, simply from ingesta, is productive of it, as is particularly exemplified in Licentury. Louis maintains that the seat is most frequently in the cæcum, next in the colon, and least in the rectum. It would seem, according to our own dissections in this city, to be in and about the ileo-cæcal valve, in the largest proportion of instances.

The discharge in all the profluviae was once considered as constituting the disease itself, occasioned either by a depuration of certain peccant humours through the solids, or a colliquation of the latter into a fluid. But such hypothetical crudities are no longer entertained, and to them has succeeded the doctrine, that all these discharges are owing to a vitiation of the secretory process, immediately dependent on some change of condition in the organ, and which change may be functional or structural, and of divers gradations and kinds. Granting the general correctness of this doctrine, it still remains to inquire more precisely into the conditions affirmed.

That a vast increase of a discharge may take place from the mucous membrane, independently of any apparent lesion, is shown by the post-mortem evidence I have cited, and as certainly, from the cutaneous cellular and serous tissues. As the skin sweats, so may these eliminate their respective fluids in excess. But, here there is usually some excitement and turgescence of vessels. The discharge happening from metastasis, the same condition probably exists. Thus, when the skin, under the influence of cold, ceases to perspire, and the bowels assume vicariously the office, there is in them an exaltation of action, corresponding to the loss sustained by the dermoid membrane. Exactly what the one loses, the other gains, to be added
to its natural portion of excitement. This may be deemed irritation only—and of the connexion of these fluxes with phlogosis and organic lesions, no one doubts. Do they, however, occur in the absence of these several states? The theory of haemorrhage and dropsy will equally embrace the present case. Like the sanguineous or serous discharges, that from the mucous coat, may be referred either to an active or passive state. But, perhaps, a still more pertinent illustration may be had in the analogy of colliquative perspiration. A haemorrhage or hydropic effusion, or such cutaneous transpiration, is met with in the lowest prostration of vital energy, and so is diarrhoea, each caused by relaxation of the exhalents, and all requiring for their cure astringents, tonics, or other means of invigoration.*

Establishing this distinction as a leading principle, its exceptions and limitations will hereafter appear in the treatment of the disease. But previously to entering on this, I wish to remark, as a conclusion, from all I have said, that the discharge itself is merely an effect of an abnormal condition of the bowels, the ascertainment and rectification of which, constitute the real objects of cure. To determine, however, the exact pathology of the case, we have seen is very difficult, and, so long as it remains in such obscurity, the practice must be somewhat tentative and empirical. Nevertheless, in the want of more perfect information, we may be guided, in part, by the character of the stools, and still more, by the general state of the system.

The pulse being tense or corded, with pain and tenderness of the abdomen, aggravated by pressure, florid tongue, and not extreme weakness, we can scarcely err by a resort to venesection, the propriety of which, indeed, is attested by ample experience. To Sydenham, in his account of the diarrhoea of measles, we are indebted for this great practical improvement, and which is not the least of his valuable contributions. Claimed recently as a discovery, it may have been overlooked or disregarded by others, though not by the practitioners of this city. From the time of my connexion with the profession, such, at least, has been the plan of treatment of every description of inflammatory bowel affection, chronic or acute. Nor, will a single bleeding, however copious it may be, always, or even generally suffice. Chronic inflammation, though not so immediately dangerous, has a much stronger hold of a part than recent, and accordingly proves more difficult to dislodge or subdue. Not discouraged, then, if no very striking advantage accrues from the first bleeding, in such cases, let it be repeated every two or three days, while the pulse and strength warrant the continuance, and we cannot fail ultimately to be well satisfied with the consequences. Certainly, in some instances, I have bled from ten to fifteen times, taking away four, six, or eight ounces of blood, each operation, and found it essential to the cure. Topical bleeding is a very important auxiliary to venesection, sometimes superseding altogether the necessity of it, where the means of accomplishment, which is seldom the case in country practice, can be conveniently obtained.

The inflammatory state having been overcome, gentle emetics of ipecacuanha, exhibited occasionally, may be useful. They are not prescribed here as evacuants, though not always without advantage in this respect, as to renovate, by instituting a series of new actions, the condition of the whole alimentary canal. Nor in their immediate operation, by arresting the peristaltic motion, are they without good effect, and perhaps not so less by inducing a determination to the dermoid surface. In the management of this disease, it is of the last importance to restore to the skin its healthy functions, for, till this is accomplished, no decided and permanent impression will be made. Great benefit accrues from the frequent use of the warm-bath with this view. To command, however, its full effect, where the skin is dry and the capillary

*The work of Andral on Pathological Anatomy, has a chapter on this subject, abounding in facts and the most interesting views, which may be consulted with the greatest advantage.
certainly torpid, some stimulating article should be added to the water, as salt, and, on the patient entering his bed, he is to be rubbed with a flesh-brush, till a universal glow is diffused over his body. The bath being not readily commanded, a stimulating pediluvium or friction with fine warm salt, may be employed as a succedaneum—and further to promote the effect, a small dose of Dover’s powder will prove serviceable. During the day, a pill may be given, every two or three hours, composed of a small portion of torrefied rhubarb, ipecacuanha and opium. The ipecacuanha, on every account, is singularly valuable in this disease, though there are some who prefer the antimonials, and especially the cerated glass of antimony, with opium—a preference, I suspect, without any just foundation.

These medicines having been tried unavailingly, we may next resort to alum, which is much prescribed in the form of whey. My mode of directing it, however, is in the dose of two, three, or four grains, to a quarter of a grain of opium, several times in the twenty-four hours. In some instances, a small portion of ipecacuanha may be added, and especially if the skin continues dry, and the bowels harassed by griping or other uneasiness. By Mosely, a combination of alum and white vitriol, called by him the vitriolic solution, has been greatly extolled in chronic dysentery and diarrhoea. Of this, I cannot say a great deal, from my own experience, having been discouraged from any extensive use of it, by its very disagreeable taste and nauseating effects. Entitled to greater regard, is a union of alum and the sulphate of iron in equal portions, say a grain or two of each, occasionally repeated, with or without opium, as the indication may be.

The acetate of lead, with opium and ipecacuanha, has strong claims to attention, and the camphorated mixture, with nitrous acid and laudanum, is of late strongly commended, though, I think, undeservedly.* In some instances, particularly where the liver is concerned, the nitro-muriatic acid internally or as a pediluvium, or by frictions, has certainly proved of service. It ought, however, to be cautiously used, and its effects carefully watched.—Even when endermically applied, I have known it, in several instances, to bring on the most distressing dysenteric affections.

Contrary to common opinion, by which they are forbidden, I have seen the vegetable acids eminently beneficial. Diluted vinegar I allude to especially, though lemon juice sometimes also answers.

Much the most, on the whole, however, may be expected from the use of mercury. This is an indispensable remedy, when the case is associated with hepatic derangement, and even if such do not exist, it proves serviceable. Calomel or the blue pill is given in minute doses with opium, and sometimes ipecacuanha and prepared chalk, to attain the alterative, and not the salutary effect.

By the unanimous voice of practitioners, blisters are declared to be of the greatest utility at this conjuncture, which are applied to the abdomen or the extremities, and may be alternately put on the ankles and wrists. The principle on which they act, in the latter instance, is that of revulsion.

Chronic fluxes, with such discharges as to constitute merely a gleet of the bowels, are most successfully managed by the balsamic and terebinthanate preparations. The copaiva I have often used advantageously; also the spirit of turpentine, and sometimes, even more so, common resin, in the dose of four or five grains several times a day. Cubets, repeated in the same dose and manner, I have known to be serviceable.

The bowels being ulcerated, which may be suspected from the appearance of the discharge, the balsams and terebinthanates are thought also peculiarly adapted. Not a little has also been recently said of the nitrate of

*This is called Hope’s mixture, from the author of it, and is prepared as follows—the dose, of which is a table-spoonful, several times a day: R. Mist. camph. 5vij., acid. nitrous. 5j., tinct. T. heb. gtt. xl.
silvery, as well as the sulphate of copper. But, whatever may be their utility, the principle on which they are applied, is surely erroneous. It having been found that ulcers of the external mucous surfaces when touched by either of these articles, are disposed to heal, it is presumed that given internally, they might have a similar effect, by coming in contact with the intestinal ulceration. This is sheer nonsense, and it is really inconceivable how the notion came to be entertained, that the fourth of a grain, which is the ordinary dose of these articles, covered up as they are in some other matter, in a pill, the only mode of exhibition, could thus operate, and especially on so wide a spread surface as usually exists in the case.

Not much is to be expected from any treatment in this ulcerated state.—Except in two instances, never have I seen a cicatrix in the bowels, extensively as post mortem examinations are conducted in this city. But facts of the kind are reported by Latham, of London; and among the French, by Petit, Billard, Andral, and Troillet, the latter of whom has presented an example of ulceration, where there were marks of incipient, advanced, and complete cicatrization.

Next I am to make a few remarks on that species or variety of the disease supposed to depend on debility or relaxation of the intestinal exhalents. It may be the final stage of the inflammatory flux which I have already described, and it is to be met with, as a primary state of the bowels, among very emaciated and infirm people, either from age or other causes, or as symptomatic of consumption, &c. These cases, however, are exceedingly deceptive. Much general weakness may exist with a high degree of local irritation or phlogosis, or even ulceration. To determine this point, previously to entering on the treatment of the case, is of great consequence.—Being satisfied, however, that no such conditions exist, the indication becomes simple, pointing directly to the restoration of the tone of the prime vae, and to this end, the whole catalogue of tonics and astringents is sometimes exhausted. The use of them, however, is hazardous, and for the most part inefficient, so that they are comparatively seldom employed by me, and uniformly with the circumspection which a distrust of their propriety creates, though undoubtedly, a state of the bowels may prevail, to be cured by this description of means. Experience teaches this, and we have the further evidence of their efficacy in similar atomic affections of the mucous surfaces of other parts, as of the urethra, vagina and lungs, gleet, leucorrhoea, and some varieties of bronchitis. Nevertheless I repeat, that the course must be experimental in a considerable degree. There is one source of illusion, which ought not to be overlooked. It happens that the evacuations may be suddenly checked, and relief presumed to be effected. The remedy here excites the muscular coat of the bowels into spasmodic contractions, preventive for a time of the escape of the fluid, soon followed by turidity of the abdomen, a distressing sense of distension, often some colicky pain, and ultimately the discharge bursts forth with increased violence. An occurrence of this sort, ought to be received as an admonition of the impropriety of the practice, and of course to its discontinuance. But the effect being otherwise or really beneficial, then any or the whole of the astringents, mentioned under a preceding head, may be recurred to, and these not succeeding an appeal must be made to some of greater power.

An infusion of galls alone, or in various combinations, particularly with prepared chalk and laudanum, is much prescribed in this atomic state of the bowels. The Syrup of galls made in the following mode, is also occasionally directed. Two drachms of the powder of galls, are to be infused in a gill of brandy sweetened, and then set fire to the liquor, and let it burn out, of which a teaspoonful is the dose. Nearly of equal power is the kino. It may be given in powder, or watery solution, or in tincture—though it is most efficient in tincture, with prepared chalk and laudanum. The dose is a tablespoonful occasionally. Nearly of similar properties is the catechu, which may be exhibited in a similar manner.
As a mere astringent much has been said of logwood. It is given in
decoction or infusion. The tincture of rhatany, however, has a still higher
reputation. An infusion of the bark or flowers of the pomegranate is wor-
thy of trial. Equally so is the cinnamon, and particularly the clove tea.—
I have also, sometimes witnessed very good effects from the compound tinc-
ture of rhubarb with laudanum in small and repeated doses.

By our own country we are supplied with several active astringents.—
The only one, however, I have employed, and which I think is equal to any
of the vegetable astringents, is the dewberry root, Rubus trivialis, in decoc-
tion. Combined with astringency it has an aromatic flavour, which recon-
ciles the stomach to it, and hence is rarely rejected. The bowels, however,
are commonly very much ulcerated, and under such circumstances little is
to be hoped. As a palliative, an opiate infusion occasionally renewed, is
here more effectual than any other remedy.*

Regarding the diarrhea in those districts of our own country, formerly
mentioned, I have to make only a single suggestion. The preceding reme-
dies, so far as I have remarked, are equally adapted to it, the one or the
other to be selected according to the existing condition. But since it seems
to originate in local influences, the propriety of an immediate removal beyond
their noxious sphere is obvious.

This is the medical management of primary fluxes, having hitherto only
referred incidentally to the secondary form of the affection. But there is no
difference so far as concerns the bowels, the main object being to detect and
remove the parent disease, whence is derived the intestinal irritation, of
which the discharges are the consequence. The treatment, however, of the
lesions of the organs to which I allude being foreign to the present occasion,
I shall not at present expatiate on the subject. It must suffice to mention
 singly, which I am induced to do, as perhaps less apt to attract attention,
that these fluxes are far more frequently than suspected to be found in con-
exion with some irritation at the extremity of the rectum, operating either
as the original or aggravating cause—and that whatever may be its nature,
it is very important to get rid of it without delay.

We come now to the consideration of regimen, on the due regulation of
which every thing depends.

As to diet, it is usual to select those articles supposed from their astrin-
gency to bind the bowels, which I think is a mistaken notion, derived from
the false doctrine that the discharge constituting the disease—the great pur-
pose in the cure is to restrain it. The indication, on the contrary, is to soothe
irritation by the blandest nutriment, thus making it harmonize with the oth-
er parts of the treatment. It is customary, as having this property, and by
which they are so well adapted, to commence with the mucilaginous or far-
inacious matters—that of gum arabic, the slippery elm or the beene, and
tapioca, sago, sallop, arrow root, rice, flour, &c. Gruel and thin broths,
though usually proscribed, from an apprehension of their running through
the bowels, I have found, on the same principle of allaying irritation, very
appropriate. We direct them in cholera morbus, and why not in the pre-
sent case? Milk, on some occasions where the stomach is not sour, an-
swers very well—and perhaps no article more uniformly agrees with the pa-
tient than buttermilk.†

* But the application of a blister over the abdomen, so long as merely to
produce rubescence of the skin, will sometimes mitigate the irritation, and
temporarily suspend the discharge.

† Milk may be given alone, or thickened with some of the farinaceous
matters mentioned above, the best of which is wheat flour, thus prepared:
Enclose in several folds of linen half a pound or more of it, drawn tight into
a ball, and then boil it for several hours in a pot of water. On cooling it be-
comes hard, and must be grated into a powder.
Digestible solids, as mutton, or fowl, or game, or oysters, raw or slightly roasted, may subsequently, on the abatement of irritation, be allowed—and I have seen benefit from an occasional indulgence in a small portion of ham or salt fish under similar circumstances.

Crackers or stale leavened bread are only proper. Fruit I have sometimes known to be appropriate, particularly peaches. The dew or blackberry has a large share of popular confidence in this respect, to which it is not more entitled than strawberries. These, and I may add oranges, habitually and almost exclusively used, have cured the disease. Mentioning on a former occasion some cases to this purport as regards the latter, the physician-general of the British forces in Canada, who happened to be present, informed me that his wife, having suffered from diarrhoea for a long period, during which she had visited Europe and received there the best medical advice without avail, was finally cured by living entirely on oranges, to which she was prompted by an irresistible instinctive desire. Yet generally fruits disagree, or prove as injurious as the common vegetables. The best drink at first is rice or barley-water, or some similar article, and brandy and water or port wine in the advanced atomic stages. Neither much food nor drink should be permitted at a time, it being very apt at once to run through the bowels, nor the latter be very cold for the same reason.

Many of the cases of diarrhoea, and especially of long standing, may be considered as materially dependent on dyspepsia, and hence all the dietetic rules in relation to that affection are to be observed, together with a recurrence to the ordinary remedies for its removal.

No one questions the necessity of preserving an equable temperature on the surface in the intestinal affections, and among the best means of securing it is a flannel roller, while at the same time by its compression, further and more decided effects are attained. Equally important is it carefully to protect the feet—these, when cold, hardly ever failing to revive or exasperate the affection.

Exercise has been greatly insisted on as a curative measure: but whether it operates for good or evil, will depend on its being properly timed.—During the continuance of any activity of phlogosis it must be avoided—absolute rest, even in the recumbent posture, having the most beneficial influence under such circumstances. It is indeed, in many instances, the sine qua non, or without which every thing else will prove nugatory—while in an opposite or atomic condition, taken in any mode it is eminently serviceable, though more so on horseback, and particularly if it be extended to a long journey. More than one of our watering places, the White Sulphur and Warm Springs of Virginia especially, are deemed very efficacious, and hence may be worthy of trial.

Even, however, if all these expedients fail, we are not to abandon the patient. As a last resort, a sea voyage to some temperate climate should be recommended. This is a very important measure, and will sometimes succeed when all others have proved unavailing.

It is matter of great moment to remove these fluxes. Exhausting as they may be in their immediate effects, they are connected with pathological conditions, which become aggravated by delay, leading too often to the saddest catastrophe. Looking at some of the results only, "the bowels," says a late writer rather quaintly, "being unfaithful to the stomach, and, instead of playing fair, let go their hold of the pabulum vitae before the lacteals have properly performed the process which that grand organ has prepared for them, nutrition must be deficient, and the consequences of inanition ultimately take place. Nor," continues he, "does the mischief stop here. Locke tells us that people with relaxed bowels have seldom strong thoughts or strong bodies. To a certain extent this may be true, and it is one of the numerous instances illustrative of the ultimate dependence of our moral on our physical condition.—Am. Journal of Medical Sciences—November, 1836.
Editors’ Remarks on the foregoing article.

The age and experience of Professor Chapman, have furnished him with the means of giving, in the foregoing communication, a most copious and excellent account of the phenomena of Chronic Fluxes of the Bowels. This would have been no easy task for one less experienced and familiar with their varying characteristics. As we desire that every practitioner should study and be familiar with those characters, as well as every thing else valuable in the subsequent details, of which we honestly conceive there is much, we have given the entire treatise. But whilst we are unable to boast an extent of observation equal to that of Dr. C., we still feel not only the right, but the duty, as southern practitioners, of exercising judgment on his opinions of a disease, almost exclusively of southern origin; or rather, having in its nature much of that pathology which is peculiar to southern climates.

Our observation leads us to confirm the views of Dr. C. on many of the causes of this disease, and agree with him, that almost all things which will irritate the primae viae excessively, and especially if habitually indulged in, may produce chronic fluxes of great obstinacy. But these when they become chronic are generally connected with dyspepsia. They arise most commonly from the abuse of ordinary articles of diet, good in themselves; or from articles unsuitable for human digestion and nutrition.

But we must necessarily pass over much of the discussion which this essay demands, and come to the few points on which we designed to comment in this note.

In speaking of the use of protracted purgation with drastic articles, he remarks, “It is in this way, I have little doubt, that the horrible abuse of mercury throughout a considerable extent of our country, concurs in the production of similar mischief—Nothing is more irritating to the alimentary tube, the liver, and the whole of the abdominal viscera, than this very article, unless cautiously regulated—and when we advert to the indiscriminate and exorbitant employment of it by confessedly too many of the practitioners in the region to which I have alluded, the conjecture advanced, seems scarcely to require any confirmation.”

The indiscriminate or exorbitant use of any thing, even the most wholesome article of diet, must doubtless always be wrong. But the whole aspect of the paragraph is such as to impress the reader with the idea that a large proportion of the practitioners of the south, (for this is the region alluded to,) are unacquainted with the judicious use of mercurials, or that they are so empiricals to employ them indiscriminately: and it stands before the
reader as a beacon against the use of calomel, the most common form of mercurial medicine—pointing it out as not only unsuccessful but as a common cause of diarrhoea.

However extensive may be the inroads made on southern practice, by the fashionable ultraism of the so styled physiological doctrine, which, thanks to a kind providence, has passed by as a meteor, having arisen, attained the zenith of its glory and fallen in half an age, thus compelling its author to procrastinate the hope of its farther cultivation and renewed approbation to another age; still practitioners who are habituated to observation of southern diseases, have most commonly some independence of mind which they freely indulge: they daily observe that this medicine is not to be judged for them, by practitioners who are not habituated to observe its effects on the human system, under the modifying influences of a southern climate. They well know that instead of considering that “nothing is more irritating to the alimentary tube,” that scarcely any medicine is better calculated to arrest diarrhoea, especially with the assistance of such an anodyne power as will so retard gurgitation as to allow it to operate on the secretions of the prime vae and of the liver. In cholera infantum, the first dose is often found competent, without the aid of anodynes, to arrest the morbid discharge, and indeed all discharges for a time, and until a new and salutary evacuation is effected by an entire change of secretion. And this is a case in which a kind of local irritation is generally considered as existing, from which a more general morbid action may be expected to arise. Calomel certainly possesses great energy: but it is also certain that in moderate doses, and in cases of moderate excitement in the intestinal canal, unattended with very high general excitement, its power is not calculated so to co-operate with the morbid causes as to increase, in proportion to the power abstractly considered, the quantum of morbid excitement, but to produce a new one in the prime vae, which new action tends to the subversion of the old. They are not prepared so far to reverse the order of cause and effect as to believe all that has been said about the gastritic and enteritic origin of all fevers and so forth; or that the various ulcerations in the first passages which are observed in autopsies, and which there is good reason to believe often exist sometime before death, are always indicative of a primary irritation there; but that these are more generally dernier effects of disease primarily located elsewhere. They have learned, in short, to free this medicine from its dreaded irritating powers, and this done, frequently to relieve effectually by its use the most irritable stomach and bowels, by correcting that hepatic action on which these depend and apply it to the irritated conjunctiva, and all cutaneous excoriations and chronic eruptions, with the effect of promoting the action of the absorbents so as to procure an early removal of the existing irritation.
In saying these things, we mean to refer to that judicious use of this article, the knowledge of which is usually obtained, only by close observation and much experience in the diseases in question; and with a mind not trammelled by false theories of the origin of disease, as in gastric or enteric irritation; or the nature of the green, blue, black and other secretions, produced by the peculiar action of calomel; or of its modus operandi; as considering that this medicine only irritates the first passages, and without going elsewhere, issues from this highway its sovereign mandates to distant parts, through the medium of an invisible and indemonstrable and unknown agent called sympathy.—

The doses alluded to are of such size as carefully to avoid too prompt and rapid purgation, but at the same time as large, and often repeated as may be necessary to effect the desired alteration of secretion.

We are free to acknowledge that this article has very considerable cathartic power—operating not unfrequently in large doses, as perfectly as a hydragogue, as the compound powder of jalap; but nature has placed such a guard around it, by giving it a salivating power, as to prevent the frequent habitual use of it as a prompt purgative or a laxative. Whilst therefore we perfectly agree with the learned and experienced professor in considering that its "indiscriminate and exorbitant" use may be a competent cause of chronic flux of the bowels, we are compelled to differ so far, as to the fact of its being a frequent cause, as to conclude that the want of its use in a proper manner is by far a more common cause. And this opinion is founded on our views of the pathology of these affections, in connection with the results of its employment in their treatment.

The professor seems evidently to have labored in this essay under two difficulties, which he should have determined most conclusively before either prescribing for, or treating on these cases. The first is a clear and definite diagnosis between the different varieties of chronic fluxes. This must necessarily have relation to cause, as well as the subsequent considerations in therapeutics. It happened that during a few weeks residence in New Orleans, we witnessed the effect of the water of the Mississippi in producing twelve cases of flux from the bowels, in a family consisting of the same number of persons, and perpetuating the same against the efforts of two of the most accomplished practitioners of the place, for several weeks, and indeed until they were corrected by crossing the lake and obtaining an entire change of water. Here was a simple purgative power, for which that water appeared to be notorious, at least so far as related to its use by those not habituated to it. It was not unlike that of a moderate dose of salts taken several times a day. This was in December and January. Again: In autumn doubtless this simple disease would have been complicated by that dyspeptic state of the primæ viæ which sometimes attends hepatic tor-
por or other obstructions. Those however of the liver, skin and uterus are the most common. Again: This complicating circumstance may, and doubtless does more or less, in miasmatic regions, prove sufficient alone for the production of a chronic dyspeptic diarrhoea, instead of constipation—so that scarcely any article of diet is properly digested on account of deficient hepatic secretion; or in other cases there often appears a diarrhoea or other form of alvine flux, arising from that irritation of the first passages produced by excessive fullness in the beginning branches from obstruction of portal circulation in the liver, &c. Hence the "sallowness of skin, of light lemon hue—the invariable resemblance of the discharges to pale clay, or Fuller's earth dissolved in water," &c. All these and other varieties do exist, and should, we say, be clearly distinguished before the pathology is declared, and still more, before the prescription, can be rationally made.

We cannot enter in this place on a formal therapeutic treatise on the various cases, as we have already protracted this article greatly beyond the intended limits. But we feel that we shall not be able to stop our remarks short of citing the professor and his readers to another cause of embarrassment under which he has been compelled to labor. It is this. After declaring that "no perplexity can prevail in the recognition of diarrhoea," he says, "It were highly important, however, in a therapeutic and practical view, could we discriminate the several states of the bowels on which the discharge depends—but I am apprehensive we cannot do this with any uniformity or precision." The state then has afforded a perplexity and want of decision which extended its confusion into all his subsequent philosophy.

He appears in his pathological investigation not to have duly distinguished between the acute and chronic state—not to have considered that chronic in medicine is not, as in chronology, determined by days, weeks, months or years; but rather the state of the disease, and the word should therefore be in its technical use, considered chiefly as qualifying the nature instead of marking the time. Its use however is not strictly apposite, as it really has in this sense no other relation to time, (from which it comes,) but that the state intended to be described is most commonly in connexion with more or less considerable duration. Nor does the professor seem to call in to his aid much of the influence of season, climate, sex, age or temperament; some of which almost always give peculiarity of caste to the resulting phenomena.—But so soon as he arrives at the part for which all the rest was intended, by the dint of long observation, and the assistance of Sydenham, light seems to have shone forth on the subject, and very considerable accuracy to be arrived at, both in diagnosis as to state, and therapeutics.

In speaking of the cause of this affliction, we should have re-
ferred the professor as well as his readers to one which has of late become more common than all others together—the exorbitant and indiscriminate use of Lobelia, No. 6, and Composition Tea.

---

Review of the Practice of the Obstetric Institute of the University of Pavia: By Dr. Ant. Trezzi.

One hundred and one females were admitted to the institute during the year 1833-4, of whom sixty-eight were in their first pregnancy, and were delivered of one hundred and two children, there being twins in one instance. Ninety-eight of these children were born at full term. There were ninety-five natural labors, of which thirteen only were difficult; of the six remaining, four required manual assistance, one the use of forceps, and one the cesarian section.

The presentations were as follows:

- **Occiput:**
  - 1st. position, 72
  - 2nd. do. 18

- **Breech:**
  - 3rd. do. 1
  - 4th. do. 1
  - 1st. do. 2

- **Feet:**
  - 3rd. do. 1
  - 4th. do. 1

- **Face:**
  - 1st. transverse position, 1
  - 2nd. oblique do. 1
  - 2nd. position, right, 1

- **Shoulders:**
  - 1st. do. left, 1
  - 2nd. do. do. 1

**Uterine Phlebitis preceding delivery.**

One of the females experienced on the 30th January, a chill, loss of appetite, lassitude, head-ache, thirst, lateral uterine pains, especially on the right side, pains increased by pressure, and attended with uterine contraction presenting nothing peculiar.—The active movements of the fetus were sensible and sometimes painful; the cervix was long, soft, indolent; os tincæ closed; pulse frequent, full and vibrating. She was immediately bled and purged with oil; the antiphlogistic treatment was vigorously pursued, but without more than temporary relief; the uterine phlebitis gradually progressed until the 16th February,
when she was delivered without assistance. The infant was apoplectic and could not be restored to life. She experienced some relief after delivery, but very soon presented every symptom of intense puerperal fever, which terminated fatally on the nineteenth.

Autopsy twenty-six hours after death presented the thoracic viscera healthy; in the abdomen a puriform effusion had taken place, as also adhesions of the omentum and intestines to the walls of the cavity; inflammation of the uterine connexions, particularly in the right side, where these parts adhered by a purulent plastic lymph. The spermatic veins were very much developed though healthy; the uterus being opened, those vessels at their entrance into the uterus were found filled with pus; the cellular tissue surrounding them in their way through the broad ligaments was also infiltrated with pus; the suppuration however was confined to the larger venous trunks. The same morbid conditions were found in the other side, but in a less degree.

Among the Natural Labours, the difficulties encountered were from spasm of the uterus, uterine inaction, resistance of os externum, and presentations of the breech and feet. There were five instances of uterine spasm, especially of the cervix, which yielded to blood-letting. In another case, the waters having come away, three bleedings, emollient poultices to the abdomen, and oleaginous injections per vaginam, became necessary. The child was born apoplectic, but was saved by umbilical bleeding. The delivery was natural.

One of the cases of face presentation was sufficiently remarkable to be further noticed. When the head descended to the inferior strait, the position was the following: The forehead occupied the centre of the strait, the vertex rested against the right ischium and the chin against the left, the left temple under the arch of the pubis and the right in the sacrum. The right temporal region, yielding to the uterine contractions, slided over the perineum and escaped at the inferior commissure of the vulva, whilst the left remained stationary. All the right side of the head having passed out, the clavicle resting against the left side of the pubic arch, the head rotated from right to left, the vertex, then the occiput, successively escaped from behind the right side of the arch; and the head thus liberated assumed the position of the second occipital presentation; the remainder of the body soon followed. The labour continued thirty-two hours; the child was apoplectic, but was restored; his forehead, eye-lids, nose, and upper lip were very much bloated; the other parts of the face normal. The delivery was effected without instrumental assistance.

This case although extraordinary evinces the great resources of nature in completing her greatest work, and Professor Lova-
ti took occasion to impress on his pupils the necessity of withholding the use of instruments as long as possible; and also to allude to the error of those who believe assistance indispensable in all cases of face presentation. This question has been argued in the Academy of Medicine of Paris, M. Capuron admitting the possibility of spontaneous delivery with such presentations, if the fetal head be small and the pelvis very large.

Cesarian Operation.—The cesarian operation was performed by incision in the linea alba. Many obstetricians have advised the incision of the uterus to be made as high up as possible; but this viscus being always affected more or less with lateral obliquity, the section of its anterior wall would always be oblique instead of vertical; moreover, the section of its upper part would favour the introduction of portions of intestines between the edges of the wound, as well as extravasation. Professor Lovati therefore prefers making the incision lower down, in order to avoid these dangers as well as to facilitate adhesion by the application of the bladder over the wound.

In the case before us Baudelocque's Pelvimeter indicated the following dimensions:

- **Antero-posterior diameter, 5 inches 2 lines.**
- **Left oblique**
  - do. 7 7
- **Right oblique**
  - do. 7 9

Further examination proved the vertebral angle to project very much into the pelvic cavity; the sacrum presented no curvature; and the pelvis was strongly inclined downwards. The section being made the child was removed alive, the placenta was expelled through the wound by the uterine contractions, the wound was well stitched, but the patient expired twenty-four hours after the operation.

The external wound was found well united; at its superior angle a portion of the omentum was found adhering by plastic lymph; a noose of small intestines, red, and covered with purulent matter, adhered in the same manner to its left lip; the peritoneum in general was inflamed; the uterus was voluminous and open on its left side; its incision was oblique from left to right, was four inches long, beginning two inches below the fundus and extending to the point at which the peritoneum passes from the uterus to the bladder, and slightly open. The uterine cavity was empty; the os tincæ soft and dilated. The following were the dimensions of the pelvis:

\[
\begin{align*}
\text{Superior strait,} & \quad \left\{ \begin{array}{l}
\text{Antero-posterior diameter, 2 inches 4 lines.} \\
\text{Left oblique,} & \quad \text{do. 3 4} \\
\text{Right oblique,} & \quad \text{do. 3 9} \\
\text{Transverse,} & \quad \text{do. 4 2} \\
\end{array} \right. \\
\text{Inferior strait,} & \quad \left\{ \begin{array}{l}
\text{Antero-posterior,} & \quad \text{do. 3 8} \\
\text{Transverse,} & \quad \text{do. 3 4} \\
\end{array} \right.
\end{align*}
\]
The bones of the pelvis were small but not altered in their form: the sacrum was perfectly flat; the coccyx very much curved and its point inclined to the left; the promontory not prominent; the left acetabulum turned inwards towards the sacrum.

The length of the incision not being more diminished by the contraction of the uterus, might be urged as an argument against M. Lovati's method of making it as low down as possible, for inasmuch as the distension of the uterus is especially produced at the expense of its fundus, so will the contraction be greatest in this portion; indeed observation teaches us, that incisions made in the upper part are found to lose half their length by the subsequent contraction of the organ.—Annali Universali di Medicina.—Gazette Medicale.

We have received and read with much pleasure "A Memorial on the State of Medical Education in South Carolina; delivered by James Moultrie, M. D., in the Representative Hall, December 5th, 1836."

Medical education is a subject that has engaged us heart and hand for some time passed, and we are truly gratified to see it advocated as it has been by such a man as Dr. Moultrie. We hope the effort made by the Medical College of Georgia, to call a Convention of Delegates from all the Medical Colleges in the Union, to devise some general plan of reforming the system of Medical Education in the United States, although unsuccessful, may yet prove not to have been altogether unproductive of beneficial influence in promoting the interests of the profession.

It would be an easier task to say very much than too much in commendation of the paper before us—suffice it to say the manner and matter are worthy the learned and talented author. We have only space for a few of the concluding pages, but we recommend our readers to obtain and peruse the whole memorial, which has been published in Charleston by Burges and Honour, No. 18 Broad-street.

"It cannot be doubted, but that the establishment of medical institutions in the United States, has been of much service to the country. It may be questioned, however, whether their multiplication has been followed by good always unmixed with evil. We might even go farther, and say, that it is to be lamented, that this has not seldom been the case. If they have served to cheapen education—to keep our resources in the country—to make us in-
dependent of foreign nations—and render the vocation accessible to many a worthy candidate who otherwise would have sought, or been driven to seek, some occupation less suitable to his nature—they have operated not less as inducements to multitudes who otherwise would never have dreamed, or should never have been permitted to dream, of embarking in the pursuit; and who, but for the facilities thus offered, would have turned their thoughts to some other occupation, more compatible with their circumstances or capabilities. Uncontrolled, as they have been, by the wholesome restrictions of legislative enactments, our colleges of medicine, actuated, too unfortunately for science, by a spirit of aggrandizement, have thrown open their portals with but too little discrimination to all who have thought proper to enter them; and the consequence has been, the nurture of a generation, which, in the main, have conferred little honor either on themselves or their Alma Mater. The diplomated quacks far out number the legitimately initiated; so that the catalogue of the former has been swelled to an incredible extent, and thus mischief and evil have been perpetuated and disseminated, in opposition to public confidence and expectation, by the very means which were originally intended to prevent their promulgation.

A question very naturally arises, then—What is to be done? I fear, however, that no reform will ever take place, either immediately or remotely, which is to have its origin in the institutions themselves. All may be placed upon an equality with respect to plans of instruction, requisites for graduation and so forth; but unless the same equality can be made to obtain with respect to charges, and proper security be given against the continuance or repetition of the present systems of underselling, and of simplifying when the progress of the science calls for a still further subdivision of labor, than has yet obtained in any of them, in order to facilitate graduation and procure large classes, every effort to this effect will be made in vain. The necessity for preliminary instruction is so little apprehended, and the means of affording it so imperfectly provided, at the same time that the pecuniary state of a large proportion of our population is in so humble a condition, that for a long time to come this latter consideration will largely operate as a reason in favor of those institutions, which shall continue to avail themselves of it. For this reason, the plan of allowing regular salaries as a basis, in addition to the usual fees, of the medical faculties, as pursued in France, appears, under all circumstances, the best that can possibly be devised. It insures to the government the right of enforcing, both on professors and students, a compliance with whatever regulations are deemed proper to be adopted for the good of the public, as well as for the institution, and of providing, by law, a surveillance, and the institution of a concours, the effect of which cannot fail to be ultimately beneficial.

It would be but half accomplishing the work, however, to stop even at this. As professorial celebrity, ceteris paribus, must depend upon the success of the efforts to secure the attainment of ante-professorial requisites—and these, again, upon college acquirements—and college acquirements upon academic discipline and instruction—it is evident that the remedies for present evils should be applied deeper still than this. It should go beyond the mere results. And to effect this, we must go back to the primary links of the lengthened catenation. We must begin, as it is said, from the beginning. And while we endeavor to correct the ills attendant upon the present laxities of our professional seminaries, try to lay the foundation for a simultaneous and entire revolution in the disciplinary exercises of our academies and colleges. These must be made to take their proper relations to each other, and to exert, in their natural order, the influences of their appropriate functions.

Medicine has been too much regarded by the public, as an isolated branch of human knowledge. It has been too much considered as wrapped in mystery. It has been too commonly viewed as a subject of special inquiry, with fixed, secret, and determinate laws, and surrounded by circumstances beyond
ordinary ken; and too seldom as a science of observation and induction, complex and comprehensive in its nature, having its basis, extensively laid in the truths of the more common and popular. To become acquainted with these truths has been considered, by those, too, who should have known better, a matter, to say the least, of very questionable utility; and it has even been urged as an objection to it by others, that it detracts too much from time which should be devoted to objects more professedly professional. This idea should no longer be permitted to prevail. It is time that such reasoning should cease to be listened to. It is unquestionably true, that no one can study the extremes of any general system at once. He cannot attend to the exercises of an academy, those of a philosophical seminar, and those of a professional institution, simultaneously. He cannot seize them at a grasp. But besides that this is attempting what is not only impracticable and should not be encouraged, we know from experience that, when properly conducted, the results which are aimed at are perfectly attainable. What has been reached in Germany, France, or Italy, can easily be reached in the United States, and should be attempted; and I would fain leave the degrees of perfection at which we may arrive, to be discussed by those who deem it a matter of sufficient importance to limit or restrict them. Of one thing I feel assured, that we have less cause to fear the maximum will be overreached, than that we shall fall short of the minimum.

The principle can hardly be considered a questionable one, as to what order should be pursued in the culture of the human understanding, or the study of the different departments of philosophy. There is a time for all things; and this maxim is as true in reference to the education of the powers of the mind, as to any of the events to which it has been applied. Each faculty has its allotted period of development, in the fulfilment of which there is a time of opening, when education exerts its most successful and happiest effects; a time of maturation; and a time of decay; and to interrupt or disturb this order, is either to impair its natural vigor, or to occasion it to fall far short of the end for which it is destined. The effect of such a perversity of method can only be to introduce discord into the mental constitution, or to touch notes, upon the same instrument, which have no natural or harmonious relation. And this principle, and these remarks, are not less true of the order in which, in reference to any particular avocation or profession, the sciences are studied. The understanding of some, notwithstanding they have been generally represented as constituting a circle, is necessary to the knowledge of others. If we begin with those at, or after, graduation, which should have been accomplished before it, what can be expected but disappointment or failure? How can we look for any other result than the formation of a being of diminutive stature? Can the judgment or the understanding be at ease amidst the objects of any particular department of human knowledge, whilst it is distracted by the presentation of numerous others? Can either be free to examine their respective principles, and mutual influences and relations? It would be but a needless expenditure of reason, to argue about the connection of the sciences, with those who have not the acquired perceptions to understand the very terms of the proposition. But can it be doubted that upon the putting of the same question to different individuals—as for example, whether the study of botany, zoology, and comparative anatomy, are of any value to that of physic—different answers would be returned according to the modes and measures in which each has been instructed? That with a German or Parisian, it will be one thing—with an American another? And yet, who would hesitate, knowing these differences, to pronounce which has the better right, or better reason, to determine? Which would be the more competent witness in the courts of an enlightened philosophy! There, we hear of no misgivings as to want of time; no whining as to the length of art or shortness of life. 'It is here only, where they are least understood, that we find the greatest unwillingness, and hear the expressions
of the apprehension of difficulties. Obliging every one to begin where he
should, and to adopt, throughout, the course which an enlightened expe-
rience has shown to be the best to be pursued upon the whole, it seems to be
the object of the best European systems, to open all of the capacities of the
intellect, and to fill them with all of the treasures of knowledge, which a self-
correcting and self-improving philosophy, has been able to gather from the
ample fields of nature and of art; and to leave it to aftertimes, or the dictates
of accident, or the steady operation of the natural laws of the constitution, to
settle the mode in which they shall be employed practically and individually.
Discarding, as impracticable, the unphilosophical conception of a mode of
instruction to be endlessly adapted to individual peculiarities, strengthening
those faculties which are already too predominant, and suffering those to be
idle which are already too much endangered by the activity of their more
powerful neighbors,—in other words, fitting a man, as the phrase is, for the
profession to which he is inclined, or adapted, by the force of his genius—a
system which never has been, and never can be, carried into general or suc-
cessful execution—it appears to be their object to carry out the more tangi-
ble or feasible expedient of disregarding those peculiarities wherein the facul-
ties are already sufficiently active to struggle for themselves, if not to require
restraint, and to supply the objects in the proper order, and with the corre-
ponding exercises to each and all of the powers of the understanding; ad-
justing the extent and degrees of each, by that common admeasurement
which trial, actual trial, has shown to be both practicable and proper. That
the standard which is adopted should sometimes prove too exalted for some,
is what may have been anticipated, perhaps, from the accidental, as well as
natural, inequalities of the race. But this is their misfortune, not a fault of
the system. The inherent inequalities of the race can never be wholly era-
dicated or removed. Modification is all that we should aim at. It is all that
we can accomplish. What nature has sown, philosophy must reap. Where
she has established distinctions, intending them to be permanent, art may
vary, but she can never wholly set aside or supersede the law. To those
who fall below the level, the higher occupations in life should be as a tree of
forbidden fruit, which they may be permitted to behold and approach, but
upon no account either to pluck or eat.

But, after all, there is no system which can be considered perfect—none
we can imagine which is wholly free from difficulty or objection. Of all
those that have been adopted, the models of France are the freest from eith-
er. One of their fundamental excellencies is, that while the votes of the fa-
culty are allowed to predominate in the judgments or decisions of the con-
cours, thereby rendering the grounds on which they are made wholly profes-
sional, the judicious exercise of the governmental authority, which is also an
element therein, preserves them from the pernicious influences of motives
which are private, personal and mercenary. The chief, if not only liability
to abuse from this circumstance, is the opening it leaves for political influ-
ence and intrigue, than which, in the republic of letters, there is nothing more
to be deprecated.

It may be, however, that we are not yet, in this country, in a situation for
the entire adoption of the concours—a fact of which I am far from being con-
vinced. It may be that the degree, as well as the extent, of mental culture
in this State, does not warrant its immediate adoption—that the mass of our
physicians, as well as of the community at large, have not that fulness and
readiness of knowledge, or of practical interchange of thought, necessary to
sustain it. But we can at least prepare for it. We can do much, in anti-
cipation, by fostering those preliminary branches of study, and encouraging
those primary institutions, from which are to spring up the elements of its
completion. We may make the departments of human learning harmonize
more thoroughly than they have hitherto done. We may adapt them more
effectually one to the other, and incorporate into all the same leaven of in-
provemment. We may bring them all under the same authorized inspection, and make them but different states and stages of one unique and entire whole.

I know it has been said that Germany is indebted for the eminence of her scientific and literary institutions, in a great degree, to the spirit of rivalry and competition which prevails among individuals. Of the truth of this, however, I may be permitted to doubt. Germany owes every thing to the habits of application, and emulation after distinction, which has been, by a course of well directed and uninterrupted discipline, long identified with the intellectual existence of her sons. The tendency of such a spirit, amidst corporations where pecuniary interests are involved, is to make them venal; and I would appeal to the experience of Germany even, for the truth or confirmation of this observation. That of our own country will corroborate it.—France has wisely shunned it. She, prudently and patriotically, confines the exercise of this principle to individuals; and the results have shed a lustre on her name, which will prove as enduring as her existence.

Profiting by these examples, the plan which I would propose, then, under existing circumstances, would be this: Let the Legislature take the whole subject of education under its paternal care; and let the system be regulated in accordance with the views and principles which have been exposed. Let the medical department be made a branch of that system, and a college be established by its authority; and let all other grants be abrogated, or expire naturally, at the end of the term for which they were given. Let there be granted by it, for the erection or purchase of a suitable building, a suitable sum of money; and let the professors, in addition to the compensation now received for their tickets, be also suitably salaried. This last would make amends for the reduction of the members of the class, which in the outset of the undertaking, and from the higher requisitions of the applicants, may be expected to be made in their incomes; in return for which the State might receive the amounts accruing from the matriculation and graduation fees, to be expended in necessary repairs. It is well known to this society and to the public, that since the disagreements which have eventuated in the establishment of the second Medical College of the State, and the unparalleled encouragement and success which have attended the labors of its Faculty, the liberality both of that body and of the municipal authority of Charleston, has been not only rendered nugatory, but unless a speedy re-action take place in favor of its unfortunate competitor, these must soon be scattered to the winds. The outlay is composed of perishable materials, and like an organized body requires composition to sustain decomposition. Something may be done perhaps towards the prevention of further losses, and the reclaiming of the materials which remain, and the appropriation of them towards this object.—I have no authority for even hinting it, but from the zeal and public spirit which I know to be the sole actuating motives of the trustees and faculty of the other school, I am disposed to think that arrangements might also be made with the authorities of that seminary, for the deviation of all that they possess, and all that they are capable of doing, towards the accomplishment of what seems to me so desirable and glorious an undertaking. The proper equivalents being given, the Legislature might thus at once possess itself of a fund, which would go far towards the immediate execution of this plan, with perhaps but little additional expenditure on their part. The details of such an arrangement I forbear, however, to enter into now. They may safely be left, should the scheme seem feasible, to future adjustment or agreement. But it may not be inappropriate to remark, that the two latter considerations—the giving of salaries and erection of a college edifice by the State—were parts of the scheme submitted years ago to the consideration of the Legislature and of the community by Dr. Cooper, in the Address to which, in the commencement of this inquiry, I took occasion to allude.

These preliminaries being established, I should in the next place say, let
the period of lecturing be extended to six or eight months, and let each student be compelled to attend three or four courses. Let there be a substitute provided for the concours, or the concours itself be established, in which each applicant for a professorship shall give a practical or demonstrative proof of his abilities and competency to fill the situation. Let the number of professorships be increased, and the order determined, by conference and council of the faculty, in which the studies shall be pursued. Let there be several examinations also of the student in the course of his studies, in which he may be required to further preparation, or be advanced to others that are exterior; and a final one, in which the ordinary written testimonials shall be included.—The carrying out of this plan would render it necessary, perhaps, that some distant day be fixed upon, in which no other diploma than that of this college should be considered valid, or should entitle its possessor to practice within the jurisdiction of the State—so as to avoid inflicting injury or injustice upon those who already pre-occupy the field.

The crisis we have reached in the mental progress of our affairs is an interesting and important one; in which the public mind is at once in that state of solicitude and fortunate equipoise, the most favorable, as it seems to me, for establishing what is right and sound; in which much moral and intellectual good may be accomplished; and in which, if rightly managed or guided, its energies may be directed and impelled to the performance of a work compatible with the enlightenment of the present generation, and worthy the perpetuation of that which is to come.

Anatomy of the nerves supplying the cavernous structure of the Penis, and their connexion with the hypogastric plexus of the sympathetic: By Professor Mueller, of Berlin.

After I had discovered the fact that the arteria helicina—the branches of the arteria profunda penis producing erection—were different from those branches of the same vessel which served for nutrition (see this Journal, November, 1835, p. 179,) I put to myself the question, whether the nerves of the penis were of the same or different properties, whether they belong to the system of nerves of animal life alone, or whether they also included organic fibres? Do those nerves upon which the sexual gratification depends, differ in their nature from those which produce the accumulation of blood in the corpora cavernosa?

I have been so fortunate as to find, both in man and the horse, that the nerves of the cavernous bodies are made up both of branches proceeding from the organic as well as the animal system, whilst the nerves of animal life alone provide the nerves of sensation of the penis.

Since, by the discovery of the arteria helicina in the corpora cavernosa penis, the immediate source of erection is found to be in these bodies themselves, so will it be also proved, if such a connexion exists between the nervus sympathetic and the nervi cavernosi, that the sympathetic performs the principal part in the phenomenon of erection. I have observed that by far the greatest number of the nerves which penetrate the corpora cavernosa in man, derive as considerable fibres from the organic as from the animal nervous system, and that the same takes place throughout the nerves supplying at least the posterior half of the corpora cavernosa of the horse, whilst the anterior half is supplied only by nerves arising from the animal system, and entering anteriorly to the pubes—viz. the branches of the nervus pudendus
given off whilst passing along the dorsum of the penis. Therefore the posterior nerves, which penetrate the corpora cavernosa behind, and enter the symphysis pubis, are composed as well of branches of the nervus sympathetic, proceeding from its plexus hypogastricus, as of the branches which come from the nervus pudendus communis.

Upon the side of the urinary bladder in the horse, and proceeding towards its neck, are many fine twigs of the plexus hypogastricus, which often join one another on their way, and separate again, forming a net work. In this part of the plexus hypogastricus, upon the side of the middle and anterior part of the bladder, lie several small ganglions, separated from one another, more or less, but often by a considerable space; they measure from one-half to two or three lines in diameter. From these ganglions, twigs pass into the urinary bladder, by which means the gray nervous fibres destined for the corpora cavernosa pass from the hypogastric plexus thither, and they then unite again in the same reticulated manner. Before these nerves arrive at the posterior surface of the pubes, they unite in the neighborhood of the neck of the bladder with branches of the nervus pudendus. Through this anastomosis are formed many strong nerves—the posterior cavernous nerves; it is of these alone that I now treat.

Many of the nerves formed in this manner, of which, in the instance now before me, I reckon four large and two smaller, pass under and behind the symphysis pubis, and penetrate the corpora cavernosa, in part accompanying the arteria profunda penis, and partly in other places.

I remark particularly, that neither the posterior cavernous nerves, nor the anterior branches of the nervus dorsalis penis, form any swellings in their passage through the fibrous coat of the corpora cavernosa. In man, a much greater portion of the cavernous nerves are in connexion with the hypogastric plexus, and the number of twigs which come from the nervus dorsalis penis alone is much smaller than in the horse. Hitherto, only the cavernous twigs of the nervus dorsalis have been known.

The demonstration of this communication in the horse is so easy, that the principal points may be clearly made out in a few weeks; but the preparation of those of the cavernous nerves, which anastomose with the hypogastric plexus in man, requires an extraordinary degree of patience, and a satisfactory demonstration of them, together with the hypogastric plexus, can only be perfected in the course of some months. The larger of these cavernous nerves can be found easily before and under the symphysis pubis, after these bones have been very carefully cut away; but the difficulty is, to demonstrate their connexion with the plexus hypogastricus.

In the summer of 1834, I was following out the twigs given to the penis by the nervus dorsalis, which I, as well as other anatomists, thought were the only nerves this organ received, and by this means I discovered, upon the root of the penis, a considerable number of gray nervous fibres, which passed forwards in a kind of lace-work between the vasa dorsalia from the right and left side, in order to unite themselves almost immediately to the branches of the nervus dorsalis; some, however, pierced the root of the penis directly. As I prosecuted the dissection of these gray fibres backwards, I was quite astonished to find that the stems did not arise from the nervus dorsalis, but were continued in a diverging direction backwards to the sides of the commencement of the prostate gland, and underneath the venus plexus situated here—one of these nerves is especially strong in this place. Before the prostate gland, these nerves are continued in a weak and still finer plexus of organic fibres, which partly lies concealed in the fleshy coats of the pars membranacea urethrae, and in part pass backwards between the prostate and the M. levator ani. This plexus stands also in connexion with branches of the nervus pudendus, within the fleshy coat of the membranous portion of the urethra; but the greatest number of the twigs of this plexus belong to the organic nervous system.
These, then, are continued (divided into many filaments) backwards between the side of the prostate and the levator ani; still hanging together in a plexus, and passing upon the side of the bladder, where the fibres are very fine and soft, until they at length reach the plexus hypogastricus, with which they unite.

Close behind the prostate, and by the side of the cervical portion of the bladder, there are in these plexuses, many ganglions, some longish and some more rounded (ganglia pudenda seu prostatico-vesicalia); to which, also, may be traced some fine filaments from the third or fourth sacral nerves. These ganglions cannot well be considered to belong to the hypogastric plexus, since they are widely separated, and are only connected with it by long and weak filaments. From these ganglions, twigs pass into the neck of the bladder and the prostate gland; but the greater number pass forwards to form the cavernous plexus. The preparation of the nerves in question will be conducted best in the following manner—first, the cavernous nerves must be sought after upon the root of the penis, in that part where the greater number of them sink into the corpora cavernosa, that is, immediately before and under the symphysis pubis. Some gray nerves may be very soon found before the symphysis, and lying between the dorsal vein and arteries; these are to be followed backwards after the root of the penis has been separated from the pubes, which must then be sawed away—this must be done very carefully. When the stems of the cavernous nerves are arrived at, they must be followed through the fibrous mass which envelopes the venous plexus, underneath and behind the symphysis, until they reach the commencement of the prostate, where they begin to subdivide still finer, and form the plexus which has been already described. It will be advantageous to allow the preparation to macerate for some time in spirit, as, by this means, the fine nerves will be more easily distinguished from the surrounding parts. Now, before the most difficult part of the dissection, it will be better to commence the plexus hypogastricus, so that the plexus of the cavernous nerves may be prepared from behind forwards. The preparation of this union is very difficult, and requires the greatest patience; for although the connecting filaments between these two plexuses are numerous, they are very fine and weak.

The nervi cavernosi, consisting of many fine branches, and one large one, will then be found to spring from the plexus cavernosus, which is composed of the roots proceeding from the nervus pudendus on the one hand, and the plexus hypogastricus on the other, and which lies partly between the levator ani and the prostate, and partly in the fleshy coat of the membranous portion of the urethra, but is strongest on the anterior part of the prostate gland.—All these stand in connexion with one another, and pass partly under the symphysis ossium pubis, partly immediately before it into the corpora cavernosa; sometimes accompanying the arteria profunda penis, but sometimes through peculiar passages in the fibrous envelope. Some twigs unite with the nervus dorsalis itself, others with the cavernous nerves of the opposite side, and others again with branches of the nervus dorsalis of the other side, and by these means a plexus is formed which accompanies the vasa dorsalia, and from this also twigs proceed, which, penetrating the fibrous coat, range in the corpora cavernosa. Some of the filaments of the plexus cavernosus on the other hand, uniting with twigs of the nervus dorsalis, pass over the corpora cavernosa, and descending into the furrows formed by the two roots of these bodies and the corpora cavernosa urethrae, are distributed into the last named body.

The nervi dorsales penis are, in distinction to all these nerves, quite white: they pass on the side of the arteria dorsalis forwards, and send many, for the most part fine, twigs into the corpora cavernosa. Their anastomosis in the middle line, through communicating branches, occurs generally in such a manner that filaments proceeding from the plexus cavernosus participate in
Observations and experiments upon the function of the Cæcum: By Dr. Schultz, Professor of Physiology in the University of Berlin.

The objects of the learned Professor in making his experiments were to ascertain—first, the function of the cæcum; second, the digestibility of the different articles of food; third, the manner of the dissolution of the fleshy fibres in the stomach, according to microscopical observation; fourth, the degree of acidity in the stomach and cæcum; fifth, the degree of alkaleness of the food in the stomachs of ruminating animals; sixth, the nature of the acids in the stomach; seventh, the coagulation of milk by the saliva, stomach, &c.; eighth, the saliva; ninth, the nature of the bile.

He maintains that there are two digestion, one in the stomach, the other in the cæcum, and that the latter is more especially active when vegetable food has been ingested. From the first experiment he learned that the degree of acidity in the cæcum is not always the same, that it is not always present, and that the food may even become alkaline. From the second, that this acidity was neutralized by long fasting, and thus allowed pure bile to enter the cæcum and neutralize its contents. From the third, that there is always bile in the course of the small intestines. From the fourth and fifth, that all the bile secreted by the liver during fasting, is by no means contained in the gall bladder, and that part is very small compared with the large quantity that flows into the intestine during the empty state of the stomach. From the sixth, that though bile is always flowing, it never passes the cecal valve during fasting, but collects on the upper side of it; it is only after perfect acidification, and at the beginning of the peristaltic motion of the intestines, that this bile flows into the cæcum. From the seventh, eighth and ninth, that the degree of acidity and alkaline of various parts of the digestive canal, vary with the length of time that has passed after feeding, and the degree of perfection of the digestive process, as also with the length of time which animals have fasted before feeding. From the tenth, that the quantity of digestive matter which is contained in the food has a great influence upon the degree of acidity in the cæcum. From the eleventh, that in carnivorous animals, when the cæcum and colon are but little developed, the food is for the most part digested by the stomach and small intestines, and the acidity in the cæcum is in general very weak, since the food, when it is here collected, contains little or no digestible matter.

The general results from the whole of the experiments we give in the author's own words; they are of the highest interest and importance.

"Results of the experiments upon the cæcal digestion."—It may, therefore, be gathered from my observations and experiments, that the food in the cæcum becomes not only a second time sour, but that the acid chyme is there neutralized by the access of bile, in the same way as in the duodenum; so that after the employing of the intestines very different reactions may be produced according to pleasure. On account of this twofold consumption of bile in the stomach and cæcum, there is an antagonism between the two digestions; for when the bile is consumed by the digestion in the stomach, the cæcal digestion cannot be perfected, and, on the other hand, when the bile flows into the cæcum, the neutralization of the acidity in the duodenum cannot take place. In those animals in which the cæcal digestion is most perfectly developed, this antagonism appears to be so arranged, that each digestion has its particular period of action, so that when the one is in action, the other is either lessened or at rest. In ruminating animals, it is very evident.
that the gastric digestion takes place more particularly during the day, and the **cecal** at night, so that I think the gastric may very properly be called the **diurnal**, and the **cecal**, **nocturnal** digestion.

"In carnivorous animals, however, the **cecum** is so little developed, that the stomach alone furnishes nearly the whole process of digestion. These animals, therefore, have a preponderating diurnal digestion. This agrees with the fact, that carnivorous animals rest for the most part during the day, and at night become hungry, and seek their prey, and are, therefore, nocturnal animals, since their digestion takes place during the day.

"As the formation of the feces follows the perfected **cecal** digestion, herbivorous animals are accustomed to discharge the greatest quantities in the morning and evening, and but very little during the day, and the healthy course of digestion. There appears to be something similar to this in man, in those ages where the **cecal** digestion is most developed; in childhood, on the contrary, when the digestive apparatus resembles that of carnivorous animals, repeated discharges of excrement take place at indefinite periods of time.

"**The use of the valcula cecci in cecal digestion.**—That the **cecal** digestion may take place, it is necessary that the still digestible remains of the food should be rendered acid and changed into chyme, as in the stomach, before its mixture with the bile. This could not happen if the bile flowed continually into the **cecum**, and it is therefore probable, that its opening into the small intestines is closed during chymification, as the stomach is closed during its digestion, only with the difference which the different state of the matter required. The stomach is closed during digestion at the pyloric orifice, to prevent the egress of the food, and the **cecum** at its iliac opening, to prevent the ingress of the bile. This is my view of the use of the valcula cecci. I have not only found in general at the lower end of the ileum, an alkaline reaction, while the upper is still either sour or neutral, but at certain periods of digestion, a collection of pure bile at the iliac orifice of the **cecum**. The contents of the **cecum** are at this time nevertheless sour. This would be impossible if the mouth of the **cecum** were not closed during chymification. After the collection of the food, therefore, in the **cecum**, its opening, like that of the bladder, uterus and stomach, appears to be strongly contracted by its muscular fibres, and with the help of the valcula cecci, to be perfectly closed. The contrary is the case at the beginning of the peristaltic motion of the **cecum**, and upon the opening of its iliac orifice the collected bile flows in. This agrees with the sensation of the ceasing of the peristaltic motion after the collection of the food in the **cecum**, which I observed upon myself, and have described in my work (de Alimentorum Concocitione Experimenta Nova.) It appears to me, therefore, that the generally admitted explanation of Fallopius, according to which the use of the valcula cecci is to prevent the return of the food from the **cecum** into the ileum, is quite unfounded; for it may be easily seen that during excretion this backward motion is very possible.

"Concerning the times for eating corresponding to the periods of digestion.—The simple rule to eat as often as one is hungry, appears no doubt the most natural. I shall be able, however, to show that this rule is by no means universal, and in many instances even pernicious. I shall succeed best if I prove that one is often hungry without having the least real need of food, and that this hunger is better allayed by fasting than by eating.

"Hunger is the feeling of need of the nourishing parts of the blood, and is situated in that organ through which it is satisfied—the stomach. This appears to be the reason, why, when the stomach is empty, we hunger, and not when it is full, even when it is filled with perfectly indigestible matter, which cannot satisfy the true feeling of hunger. We cannot judge from hunger whether the food be digested, and the proper source of hunger satisfied; and, therefore, this feeling cannot be the only rule for eating, since a perfect and
undisturbed digestion is necessary for the true allaying of hunger, and, therefore, when digestion would be disturbed thereby, it would be improper to eat, notwithstanding hunger may be felt.

"If we consider under this point of view the antagonism between the gastric and coecal digestion, it follows, that, if both be excited at the same time, they will reciprocally disturb each other, and that for perfect digestion, and the proper formation of the blood, they must take place at different periods of time. My experiments show that, for the completion of the coecal digestion, the bile flows through the small intestine into the coecum, and the whole intestine becomes thereby more or less alkaline; but they also show, that if, during the coecal digestion, the stomach be put in action, the flowing of the bile to the coecum is stopped, and its digestion consequently hindered, since the chyme cannot be neutralized, and all the contents of the canal as far as the excrement become sour. The formation of the blood in the lower parts of the canal is hereby disturbed, and the gastric digestion is also rendered imperfect; so that the two digestions cannot take place in their integrity at one and the same time. The completion, therefore, is indispensably necessary to perfect digestion in general, and it becomes very important so to regulate the periods for eating, that the activity of the stomach may not disturb the digestion in the coecum.

"If now, the coecal digestion be considered more particularly as a nocturnal digestion, the meals should be so regulated, that, when this begins, the stomach may no more be put into action, or at least not overfilled. It is generally admitted that a man digests a moderate meal within three or four hours. My experiments, however, upon carnivorous animals, which digest much more quickly than the omnivorous, to which class man belongs, show, that six or seven hours are requisite for the digestion of a moderate meal, and that when dogs are allowed to eat as much meat as they will, twelve to fourteen hours are barely sufficient for perfect digestion. The animals must even then be allowed to rest, for if they are made to exert themselves, the digestion is still further delayed, at least half the time longer. The observations which I made upon myself during intermittent fever agree with this fact, and it may safely be assumed, that six hours are necessary for perfect digestion, that is, till all sour chyme has disappeared from the stomach. If now it be admitted, that, in the common mode of life, the nocturnal digestion begins about from seven to eight o'clock in the evening, the last meal ought to be taken so early, that by this time it may be for the most part digested in the stomach. In general, therefore, one should not eat after four o'clock in the afternoon, and evening meals should be altogether avoided: for, in proportion to the lassitude of the hour and the quantity eaten in the evening, the more will the coecum and therefore also the gastric digestion be disturbed, seeing that both must take place nearly at the same time.

"That this rule is not so applicable in youth, (as long as the gastric digestion resembles that of carnivorous animals), and for the most part finishes the process of digestion alone,) as in riper years, follows from what has been already observed.

"The more the digestion is disturbed by continued large and late evening meals, the less perfect will be the preparation of the blood, and the more will the need of its nourishing parts, or hunger, be felt, particularly in the evening when the stomach is empty. This is the reason why those people who should eat least in the evening are most hungry at this time, and here more particularly does the feeling of hunger not correspond with the period of digestion: for the more such people eat in the evening, the more imperfect is their sanguification, and the greater the consequent hunger, since the food goes almost entirely unchanged through the alimentary canal, and the nourishment it contains is lost to the body. The only means, therefore, by which this hunger may be properly appeased, is that by which the digestion may be restored, and sanguification amended, and that is, notwithstanding hunger,
Observations and experiments upon the Cæcum. [Jan.

to abstain from food in the evening, that the gastric and coecal digestions may not reciprocally disturb each other.

"The source of hunger will ever increase, by continually appeasing it by late evening meals, and in this way, therefore, it is as easy to starve from too much eating as from fasting; and no doubt in this way has many a person eaten himself to death, and most probably will still. We find in general that the meagerest and most sickly persons are the greatest eaters, and, on the contrary, the well-nourished and powerful eat less. That in the different condition of the digestive organs of different people, and according to the quantity of food which is taken during the day, there may be various changes and exceptions to this general rule, is self-evident. Where the youthful condition of the digestive organs is still vigorous, and the coecum not as yet much developed, it is not necessary to be so particular about the smallness of the evening meals; and where there is in general but little taken during the day, and the quantity of food in the coecum, therefore, small, more may be eaten in the evening, as there still remains a quantity of bile sufficient for the perfection of the coecal digestion. The longer the fasting after meals, the more bile can flow into the coecum after the ending of the gastric digestion, and the less fear need there be of evil consequences."—London Medical and Surgical Journal, October 1, 1835.—Am. Journal.
PART III.—MONTHLY PERISCOPE.

New Treatment of Primary Syphilitic Ulcers: By Dr. Carusi.

This very simple method consists in exposing the affected parts a minute to the vapour of vinegar, twice a day, and then covering them with dry lint, until the cure be complete. The healing progressed very rapidly, but only in primary ulcers, whether old or recent; the secondary are never benefitted by it. After the cicatrization, the Doctor administered anti-syphilitics to destroy the constitutional effects. He reports already eight successful cases.—Il Filìatre Sebezio.—Gazette Médicale.


Having ascertained the existence and situation of the stricture with an elastic bougie, the instrument is to be smeared with sweet oil, and then covered with finely pulverized calcined alum; if the stricture be considerable, the bougie is again to be dipped in oil and coated a second time with the alum in order to increase its quantity. The bougie thus doubly coated, is to be introduced and carried up to the stricture, care being taken to dilate the orifice of the canal so as to convey within as much of the coating as possible. Having reached the obstacle, the instrument is to be gently pressed against it and secured in its place in the usual manner. In some instances two hours will suffice to overcome the obstruction and to render urination practicable. But if relief be not obtained thus readily, it will, in most cases not be deferred beyond twenty-four hours. It will be necessary to repeat the application daily until the instrument can be carried into the bladder.

M. Jobert relates cases which go to prove that the most inveterate strictures yield to this treatment. The inflammation excited is but slight and the increased discharge soon ceases.—This remedy acts by increasing the secretion and thus relieving the mucous membrane. The mucous membrane of the urethra, like the pituitary membrane, is tumified by inflammation, but returns to its normal thickness by an increased secretion as the latter does by that attending coryza.—Journal Hebdomadare, 10th September, 1836.

Epilepsy treated by Indigo.

M. Noble, Physician in chief of the Royal Hospital at Versailles, recently sent to the Academy of Medicine a detailed ac-
count of the use of Indigo in Epilepsy. The following are his results.

Three individuals were subjected to the treatment. The first was a youth 18 years of age, who had been subject to epilepsy twelve years, and who was never more than eight or ten days without experiencing one or more well characterized paroxysms. Having been subjected to the use of indigo, he had had no return of the disease for two months at the time of the communication. He had taken the remedy in doses of a drachm daily, which were gradually increased to four drachms. This increased quantity produced at first slight vertigo, dimness of vision, and finally involuntary contractions similar to those resulting from the use of strychnine. These symptoms ceased on the discontinuance of the indigo, but were always reproduced when the dose was again increased to three or four drachms.

The second individual was a girl 20 years of age, who had been epileptic since her fourth year of age. She menstruated at eighteen, since which time her paroxysms, that had previously occurred once, twice, or thrice daily, had increased to a frightful degree, especially about the menstrual periods, and, since her admission to the hospital, she had never experienced less than ten or twelve paroxysms in twenty-four hours. On being submitted to the indigo treatment, in doses increased from one to four drachms, the frequency of the paroxysms rapidly diminished.—They even ceased entirely on the sixth day of the treatment, which however was continued a month.

The last case related is that of a female in her fiftieth year, and who had had epilepsy twenty years. She had been several years in the institution under M. Noble's direction, and had not only weekly attacks, but occasionally four or five in a day.—Treated as the above two cases, the paroxysms have never returned since the fourth day, although she still experiences the same uneasiness and stupor which usually followed each paroxysm.—She is yet under treatment, but the dose is not now carried beyond two drachms.

The two last individuals experienced no involuntary contractions, but were affected with much diarrhoea whenever the dose reached four drachms. The diarrhoea ceased on suspending or merely diminishing the dose. Neither of the cases presented any other functional disorder. They will tend to confirm the efficacy attributed to this remedy, although they do not prove, as do those reported by M. Ideler, that the disease will not return. They are nevertheless sufficient to authorize further attempts, especially when the disease returns at short intervals.

[Ibid.]
Solid Carbonic Acid.

The Gazette Médicale de Paris of the 8th of October last, contains the proceedings of a meeting of the Academy of Sciences, on the 26th September, 1836, from which we derive the following extract, announcing the interesting discovery of the means of solidifying carbonic acid.

M. Thilorier, after relating a series of experiments made with liquid carbonic acid, proceeds as follows to state the particulars of his more recent discovery:

"When, in 1832, I directed for the first time a current of liquid carbonic acid on the bulb of a thermometer, the glass vessel in which rested the bulb was almost filled with a white powder of a peculiar character, and whose grains were finer than those of snow; it was solid carbonic acid. Many persons have seen this substance, which was so abundantly formed as to prove an obstacle to the frigorific effect of the current on the thermometer.

I will now state why the nature of this substance was not sooner detected. The first apparatus I used for the production of liquid carbonic acid, served both as a generator and receiver; that is to say, that the liquified gas would float over the solution of sulphate of soda resulting from the chemical action. The extremity of the tube through which issued the liquified gas, being near the surface of the saline solution, I was led to think that the liquified gas carried with it aqueous particles in the form of snow, and it was in order to avoid this inconvenience that I determined to convey the liquid carbonic acid into a separate receiver.

The necessary apparatus had just been completed when the committee met to repeat the various experiments I had made with the liquid carbonic acid. On turning the cock, I perceived with much surprise that this substance formed as abundantly as it had done before; and when one of the committee observed that it could be nothing else than solid carbonic acid, I was already convinced of the fact, for I alone knew positively that the apparatus contained nothing but carbonic acid. I may then state that the committee determined with me the fact of its solidification, and I trust that their justice will acknowledge my claims to a discovery unconnected with the ordinary processes of the laboratory, and which required mechanical means of the greatest power and utmost precision, as well as a degree of scientific zeal, which the committee have appreciated."

After the reading of this statement, a vessel filled with solid carbonic acid, resembling snow, in the middle of which was a block of solidified mercury weighing upwards of a pound, was presented to the academy. The frozen mercury was broken into pieces with a hammer, and presented a crystalline fracture.
Extracts from the proceedings of the French Academy of Medicine on the 4th October last.

Treatment of Itch.

M. Malapert objects to the usual method of treating Itch, as disagreeable and uncertain. He therefore sought for another, and thinks the caustics will combine the advantages of preventing the disease from being translated to the more important internal organs, and of radically effecting its cure. He prescribes them in the form of frictions or of lotions. The caustics he enumerates are potass, soda, muriate of mercury, sulphuric acid, and sub-carbonate of potass, but gives the preference to the mercurial preparation as the most certain and expeditious. According to M. Malapert, the mean duration of the treatment with a solution of mur. hyd. (12 grs. to 3 j. water,) is fifteen days.


The first question proposed by M. Martins is—which of the symptoms of the primitive disease are most commonly followed by secondary syphilis? The consecutive affection sometimes follows gonorrhœa, though rarely, and its complication with orchitis or buboes adds nothing to the danger. Chancres lead to it much more frequently, especially if they be accompanied, preceded, or followed by other symptoms of infection.

The most common of the sequelæ are papular eruptions, whereas the most rare (in adults) are the pustular forms of the disease.

The more inveterate forms, or syphilitic tubercles and ulcerations follow gonorrhœa as often as chancres; and more than one half the cases of secondary syphilis are first manifested in the face and scalp.

Nothing is more uncertain than the period at which the secondary symptoms may appear; they are however more tardy after gonorrhœa than after chancres. One half of the cases succeeding chancres occur in the course of seven months. Among the causes which predispose to secondary syphilis, M. Martins ranks heat as first; but admits that extremes of temperature have almost as much influence.

Taliacotian Operations.

M. Blandin presented to the Academy, two individuals on whom he had practised the operation of "Autoplastic," one of
them, a lad about 12 years of age, had nearly the whole of the left side of his face torn away by the accidental discharge of a gun. The buccal cavity was laid open so that the saliva continually dripped out. M. Blandin detached a bit of skin from the forehead and formed with it the lost side of the nose; with another brought down from the temporal region, he replaced the cheek and left commissure of the lips. M. B. remarks, that he retained the temporal artery in the latter flap, notwithstanding the opinion of Diffenbach, who advises that large arteries should never be used in such operations.

The other individual was a man, perhaps fifty years of age, whose upper lip had entirely been removed with a cancer. M. Blandin replaced the lip with skin derived from the anterior part of the neck.

**Lithotrity.**

M. Segalas presented a child two years old on whom he operated for the stone, by lithotrity, when only 33* months of age. The cure required six sittings and was completed in six weeks. The case is one of interest, the child being younger than any hitherto subjected to the operation.—*Gazette Médicale de Paris.*

**Cancer of the mouth removed successfully by a new process:** By M. Roux, of the Hôtel Dieu.

The tumour was situated between the tongue and the right branch of the inferior maxillary bone, and extended from about half an inch in the rear of the last molar tooth, to half an inch on the left of the mental symphysis. Its upper surface, ulcerated, greyish, fungous, and bleeding on the slightest touch, was elevated a little above the level of the teeth; but the jaw was not affected. None of the teeth on that side were missing; and none were pressed aside; the two incisors alone were slightly moveable. The tumour was separated from the root of the tongue by a deep fissure. The tongue was perfectly sound, but pressed to the left, and elevated towards the soft palate, so as to render speech almost unintelligible. By the finger introduced beyond the tumour, it was ascertained that it did not extend quite to the root of the tongue, and that it terminated abruptly by a vertical surface. The parts beneath were depressed so as to project below the lower edge of the branch of the maxillary about a half inch.

M. Roux having previously ascertained, by experiment on the dead body, the extent in which the branches of the inferior maxillary could be separated without injury to its ligaments, after the division of the symphysis, and finding that it could be carried to

*This must be a typographical error.
an inch and a half or even to two inches, resolved on the operation, which he performed on the 4th of May.

The patient being seated in a chair in front of the surgeon, a vertical incision was made through the lower lip, on the median line, and extended to an inch below the chin. A fine saw was then introduced between the incisors, and the jaw severed at the symphysis. The branches of the bone were now by gentle lateral traction, separated about two inches at the symphysis, the soft parts readily yielding, and held in this position by the hands of an aid standing behind the patient. The surgeon then, with a convex scalpel, detached the tumor from the internal face of the jaw-bone and from the root of the tongue. During the last incision, a pretty large artery coming from the tumour was opened, but immediately tied. A double hook (airigne double) carried into the posterior part of the tumour, served to draw it forward, and the operator making tractions, with its handle between the teeth, detached the posterior adhesions, leaving it connected only inferiorly. The tumour was now readily separated from the subjacent muscles, which were found perfectly normal. Another artery was opened and tied.

The tumour being thus entirely removed, the bones were brought together and maintained by a silver wire carried around the four incisors; the soft parts were united by the twisted suture; and no other application made. With the exception of small fragments of bone coming away from the internal face of the mental portion of the inferior maxillary, there were no untoward circumstances attending the cure of this case. The bones united kindly, and the patient was discharged on the 4th of July following. The mouth had healed, but the tongue adhered to it in such a manner as materially to impede pronunciation and mastication. There was no evidence of a disposition in the disease to return. The lymphatics of the neck were natural.—Journal des Connaissances Médico-Chirurgicales.

Period for Hare-lip Operation.

The Boston Medical and Surgical Journal for 14th December, 1836, furnishes us with some observations on the operation for hare-lip, by Dr. Peirson. In this essay, the author, after arraying and inspecting the opinions and practice of the principal surgeons, from the time of Celsus to the present, on the subject of the age of the patient best suited to good success, Concurs finally with the late Dr. Rand, senr., of Boston, on recommending the operation immediately at birth. This concurrence of opinion is founded on the facts of observation, of himself and others, as well as the reasoning against other periods of life, as the time of dentoition and after that is over, the most ungovernable period of life, in which there is not a sufficient development of the reasoning
faculty to overrule the perverseness of disposition, or the dread of pain and so forth. After stating the success of Dr. Rand's last case, in which "the child was put to the breast a few days after (the removal of the pins on the fourth day), sucked as well as any child until she was weaned;" and became a fine healthy, handsome girl, with scarcely a trace of a scar in her lip. He proceeds:

"I cannot help concurring with these views, and recommending the operation at the very earliest age, provided the child is in good health and well constituted. Many of the objections made to this operation at this early age are certainly groundless. It is not true that there is not consistency and firmness enough in the lip to bear the pressure of the pins or sutures. And compared with any other period, anterior to teething, I do not believe the danger of convulsions or death is any greater. There is, doubtless, a degree of danger, which must be encountered in all such operations during infancy; but ought this to weigh against the parental distress and anxiety, the risk of defective nutrition, the imperfect ossification of the maxillary bone, and the defective pronunciation, which are the probable, or certain consequences of delay?"

Dr. P. then gives two cases in point. In the first he operated for a simple fissure of the lip, on the next day after birth. The operation was performed in the usual manner, with hare-lip pins. Three days after, the pins and all the dressings were finally removed. On the eighth day after birth, the child was put to breast, and nursed as well as any infant. The cicatrix became so effaced, that there was scarcely a perceptible deformity left.

He states as one of the advantages of this early operation, the fact that the deformity being in the first instance kept secret, the parents were saved from annoyance by the officious enquiries of their friends and neighbors. This is a matter of no trivial consideration with most parents; but there is a more valuable fact than this in the case, and it is that the deformity was so completely removed as not to lead to the discovery of the part afterwards.

In his second case, which was last February, he operated on a child born the previous day. The fissure in this case extended through the superior maxillary bone and soft palate. In three days the union was completed and the pins removed. In this case, the child was well nourished by feeding, but could not suck on account of the extent of the fissure in the palate. He considers the early operation peculiarly important in this case for facilitating the ossific union of the palatine bone.

Dr. P. then advances other reasons in favor of the operation the next day after birth; as the fact of the removal of the fissure preventing, by the regular and moderate pressure of the lip on the part, the projection of the anterior part of the maxillary bone.
through the fissure; a circumstance—which not unfrequently oc-
curs at and after dentition; also the fact that the infant is more
generally free from all diseases during the first week; and that
"it is perfectly practicable to keep the mother ignorant of all the
circumstances, until she can be informed that the steps necessary
to remedy the deformity have been completed."

On the subject of the mode of performing this operation, the
Dr. asks, "can it be said that the mode of performing the opera-
tion is better settled than the time? Dr. P. for many good and
insuperable reasons adopts the use of the straight silver pins with
polished steel heads (points?) and the twisted suture; and the
scissors are preferred to the bistoury for removing the sides of
the fissure. The difficulty which commonly occurs in the use of
the scissors, of holding the edge of the lip to the instrument, he
overcomes by adopting the expedient of Dubois and Roux, of
passing a thread through the angle of the lip by means of a curved
needle. In all ordinary cases, he advises the removal of the pins
after 72 hours, as he considers that nothing is gained in point of
longer co-aptation of the edges, as the ulceration which is apt to
take place around the pins after this time prevents their effects,
as well as increases the mark which they leave on healing disa-
greeably large.

After they are removed, the uniting bandage should be applied,
and the retracting powers of the cheeks prevented from action,
as far as practicable.

Bad Surgery.

The following is a very striking illustration of the old plan of
treating fractures of the thigh of a good patient, with a box for
extension and counter-extension.

We are free to acknowledge, that whilst we practised in these
cases on the Dessault and the Physic plan, that our sympathies
were always more or less excited, by the actual suffering which
the treatment alone inflicted; and occasionally we have had the
mortification to witness, in those patients who were most amia-
ble, and patiently submissive to orders, most extensive ulcerations
at the points of pressure. Nor were these the worst of the evils,
but, as is too often the case with people in other matters, we
found ourselves like great men in bad things; and as was the
fact with the celebrated Boyer and Deschamps, in the case of the
illustrious La Fayette, we were not unfrequently chargeable
with that mal-surgery which entailed on our patients lameness
and deformity for life. Whilst the case is important in a bio-
ographical point of view—setting forth beautifully as it does the
extreme amiableness of him whom Americans so much revere,
it is no less useful in exhibiting a proper comparison between the
old plan of treatment, which is yet chiefly in use, and the treatment
by weight and fulcrum as illustrated by a number of cases in the 5th No. of the Southern Medical and Surgical Journal, page 281.

We are of the opinion that one of the causes, (and not the least,) which tend to retard not only surgery, but medicine generally, is the concealment of bad practice, or ill success. When we had the honor of beholding this great and virtuous lover of freedom, this bosom friend of our own Washington, as our "nation's guest," so bright was the halo of glory that shone from his heroic deeds, that no thought entered our mind but that his decipitude marked his sacrifice on the altar of American liberty. Had it then been known as publicly as his misfortune was, that it was the result of bad surgery, surely the inventive genius of freemen would not have rested short of a remedy which would have saved from such afflictions.

"Maltreatment of a Fractured Leg in Gen. Lafayette.—M. Jules Cloquet, relates the following instance of bad surgery on the part of the celebrated surgeons Boyer and Deschamps.

"During his last illness, Lafayette related to us more than once the particulars of the treatment he underwent in 1803, for the fracture of a thigh, caused by falling from a height; Deschamps and Boyer, whose memories I respect, and under whose care I was educated, were called in, and enclosed the limb in a machine constructed so as to maintain it in a state of continual extension. Lafayette having promised his surgical friends that he would patiently endure the pain and inconvenience necessarily attendant on the treatment, did not give utterance to a single complaint, and did not betray the least sign of being in pain for the whole of the twenty days which elapsed before the apparatus was for the first time removed; when it was removed, however, his surgical friends could not conceal their consternation; Deschamps turned pale, and Boyer appeared thunderstruck. The bandages of the upper portion of the apparatus had, by their pressure, cut deeply into the flesh, and exposed the femoral artery, while the skin of the dorsum of the foot was rendered gangrenous by the inferior bandages, so as to lay bare the extensor tendons of the toes. More than five weeks were required to heal these wounds, and when the cure was completed, an almost complete ankylosis of the hip joint had taken place, so that he was lambed for life."

[Boston Medical and Surgical Journal.]

Want of the Sagittal Suture.—Mr. Wallace, surgeon in the British navy, has lately had the opportunity of examining the heads of four negroes from the western coast of Africa, in all of which the sagittal suture was wanting. This can hardly be thought an accidental occurrence, and leads to the conclusion, though exceedingly remarkable, that such is the usual cranial conformation in this race of blacks.—Ibid.

Cinnabar Fumigations.—Dr. Venot employs with success the following mode of fumigating venereal ulcers of the throat with cinnabar. After soaking sage-leaves in strong gum-water, the sulphuret of mercury is sprinkled over them, and they are dried in the sun; they are afterwards smoked in a pipe instead of tobacco, and the vapour is thus directly and conveniently applied to the diseased surface. Several cases are reported to prove its efficacy.—Jour. de Méd. Pratique de la Soc. Roy. de Bordeaux, Février, 1836.
On the Nature and Mode of Action of Cantharides: By Dr. Domenico Nardo of Venice, and Dr. Tommaso Pullino of Alba.

[We regard as most valuable every fact that tends to illustrate and establish the physiological and therapeutical action of medicines on the animal system; and we are rather disposed to direct attention towards the more extended and closer investigation of the properties of our old remedies, than to hunt after new ones of doubtful efficacy. We have yet much to learn respecting our best known medicines, and certainly respecting that which is the subject of the following pages which contain the more essential parts of two long memoirs.]

First Memoir.—By Dr. Nardo.

1. Cantharides, when chewed, have not that acrid taste which has been assigned to them, solely from analogy.
2. They will act in an entire state or in powder.
3. The green portion is the only active part of the fly.
4. In this green portion alone is found the cantharidin.
5. There is no other poisonous principle existing in the fly.
6. The green principle is analogous to that found in the involucra of other insects having no vesicating powers.
7. The other principles, as the black and yellow substances, are produced by other insects, and are modified by the process followed in their extraction.

8. Cantharidin is a neutral body, unchanged by acids or alkalies; soluble in cold ether, creosote, oils and fats, and in boiling nitric acid and alcohol.
9. It has neither smell nor taste; but, if a small quantity be laid upon the tongue and pressed against the palate, it produces after a time a scalding sensation. The same thing occurs if it be dissolved in ether or oil, which, by aiding its absorption, increases its powers.
10. A very minute quantity of cantharidin is sufficient to excite vesication: for its farther action is arrested the moment that the elevation of the epidermis by the serum removes the absorbents from their contact with it. The vesication, therefore, is not increased either by a larger quantity or longer application of the cantharidin.
11. Cantharidin does not vesicating by irritating or producing any sensible inflammation; (1) its action upon the cutaneous system appears to be limited to the lymphatics, or to a slight stimulus confined to the cutaneous layer below the epidermis, so that the nervous and sanguiferous systems do not suffer at all during the process of vesication. (2)
12, 13, 14. Cantharidin applied to the denuded cutis induces a serous exudation, followed by an atomic suppuration; and acts in the same way that it does on the outer surface, its action is most speedy and painful upon parts most supplied with sebaceous and mucous follicles.
15, 16. Cantharidin is not decomposed when absorbed, and its absorption ceases as the vascular action of the cutis is excited.
17—20. Being carried through the system in an undecomposed state, the cantharidin is eliminated like other foreign matter; but, if the quantity be great, it accumulates in certain parts, and produces its effects according to the nature and susceptibility of the organ. Its stimulating effects upon the urinary passages, and its boasted aphrodisiac powers, are not peculiar properties, but result from the effects of its primary action. Thus, carried along with the urine, it attacks the prostate follicles, producing a state approaching to vesication; and the urine, by increasing this irritation, produces the symptoms of priapism, ischuria, &c. Its poisonous action upon the alimentary canal is produced in an analogous manner, but gives rise to more extensive sympathies.
21. Camphor has no power as an antidote to cantharides.

[Dr. Nardo has given cantharides in various kinds of dropsy, but could never perceive any effect from them. The effects as an aphrodisiac are very uncertain, and usually are only exhibited when they are taken in dangerous doses. The author rather prefers in paralysis of the bladder and incontinence of urine, a weak injection of cantharides.]—British and Foreign Review.—Antologia Medica.

Second Memoir.—By Dr. Pullino.

1. Two grains of cantharidin, given at once to a middle-sized rabbit, produced paralysis, coldness, and death in three hours.

2. A grain and a half dissolved in milk caused the same symptoms, and death in an hour and a half.

3. The same dose with m. xv. of cherry-laurel water caused instant death. The rabbit had five hours previously taken m. xx. without injury. Heart empty and flaccid, stomach pale.

4. A fourth rabbit took two grains in solution, with the same symptoms and convulsions of the hind legs. It then took a few drops of ammoniated ether, and one grain of acetate of morphine, at two doses. It revived, but was not lively, and died in twelve days. Stomach reddish here and there; meninges injected.

5. Two dogs of the same age and size, took, the one ten grains of cantharides in decoction; the other twelve grains in powder. The former was paralyzed, and died; and, on examination, presented no inflammation of the stomach. The other tried to vomit, was distressed, withered, and moaned. He was killed in six hours, when the poison was found undigested, and the stomach reddish.

6. Three more rabbits were killed with cantharidin, and two with cantharides. The stomachs of those that drank after taking the poison were uninjured, and the inflammation in those that did not drink was too slight to account for death.

7. The author took two grains of cantharidin at two doses, fasting, and felt a universal shivering and chill down the spine, skin pale, head oppressed, and in one minute the pulse fell five beats. Urine copious in a quarter of an hour afterwards.

8. A fortnight subsequently, he took two grains at four doses. After the second dose he felt a dull pain in the head, and at the next a little vertigo, the skin being cold and clammy. The pulse, after violent action, lost seven beats in a minute. Urine scalding and copious, although but little fluid had been drunk. In the afternoon he took some alcohol, and then ten drops of ammonia in water, when the vertigo ceased and the urine by midnight no longer scalded. Unusual weakness next day.

9. The following are notes of some cases of disease in which cantharides were exhibited:

(1.) Pleurisy.—After two bleedings, the pain continued with bloody spouts of unhealthy consistence. Three grains of cantharides in solution, gradually increased to ten, were taken daily. Continued sweats, urine not increased; spouts healthy, pain gone in sixteen days; eighty-five grains taken.

(2.) Carditis.—One hundred and twelve grains taken in twenty days; urine scalding at first, very copious and turbid afterwards.

(3.) Beating of arteries of the left side of the head preventing sleep; had been treated by many bleedings. The patient took one grain of cantharidin in four doses at short intervals. Vomiting, pulse small, rapid, rigid, vertigo, torpor of lower extremities, and other signs of depression. Ether, opium, wine and generous diet, produced a cure.

(4.) Intermittent Fever threatening suffocation. Bleeding during the paroxysm, and quinine, were followed by ardent and continued fever, dryness...
of skin, pains in loins, and ischuria. Fifteen grains of cantharidin taken in eight days, at first increased the pain, but not the fever. At first, urine bloody, afterwards bluish, then turbid and abundant. Sweat came on soon afterwards, and a cure followed.

(5.) Lumbago.—Cantharides rendered the pulse hard. The patient had had gastritis just before. Cantharides applied to the epigastrium denuded of the cuticle did not lower the pulse. Bloody urine, but no improvement.

(6.) Phlegmasia dolens in a girl with amenorrhœa. Cantharides cured the swelling, but did not restore the uterine functions.

(7.) Puerperal metropertitonitis with lumbar pains and dysuria, cured by cantharidin, baths, and mercurial frictions. Urine copious, with some clots of blood.

(8.) Anasarca with congestion of the spleen, of three years standing, cured by mercurial frictions and cantharidin, carried to six grains per diem. Urine copious, much viscid perspiration, very slow pulse. The patient fell into a very weak state, which was removed by the use of ræther and sherry.—British and Foreign Review.—Annali Universali di Medicina.

On the influence of the Nerves on the Development of the Muscular System:

By Professor Antonio Alessandri.

In 1829, Professor Alessandri published an account of the dissection of a calf whose medulla spinalis terminated about the tenth dorsal vertebra, and in which all the voluntary muscles were absent which are usually supplied by those spinal nerves which were wanting. Thus there were no muscles to the hinder limbs, and some of the muscles of the trunk were but half developed. On the other hand, all those parts essentially composed of cellular tissue, the integuments, adipose tissue, vascular system, aponeuroses, bones, &c. of the hinder extremities, were natural.

The conclusions which he then came to on the influence of the nerves in the growth of muscles were strengthened by the following case of monstrosity which has recently fallen under his notice. The vertebrae and spinal marrow of a young pig, removed from the uterus of a sow killed for food, who had gone with young her full time, were found to be deficient below the fifth dorsal vertebra. The head, neck, anterior part of the chest, and fore-legs were natural and muscular; but the posterior part of the thorax and abdomen had the appearance of a large ovoid bladder with strong aponeurotic walls, to whose fundus and lower extremity were attached the oœa inominata, which sustained the hinder limbs. All those parts of the thorax and abdomen, as well as of the hinder limbs, which were deprived of nerves, had no voluntary muscles. The visera of the thorax and abdomen were natural, as well as the par vagum and grand sympathetic. The muscular coat of the intestines was very visible. Another instructive peculiarity was, the existence of an isolated portion of the vertebral column of the coxal or caudal region, containing a small cylindrical piece of the medulla spinalis, from which sprang some delicate nervious filaments distributed to muscular fibres, representing some portions of the caudal muscles.

From these two cases the Professor deduces the following propositions:—

1. That the nerves contribute to the formation of muscular fibres more than the blood-vessels, as the latter were regularly formed in the hinder limbs.

2. Muscular fibre is not only formed by the influence of the nerves of animal, but also of organic life.

3. The existence of an isolated portion of the spinal marrow in the pig demonstrates that the various nodi or centres of the cerebro-spinal axis are formed independently of each other, so that it cannot be said that one is the production or prolongation of the other.—British and Foreign Review.—Bulletino delle Science Mediche.