The domain which we have just left, Physiology, is by no means so widely separated from the one upon which we now enter, Pathology, as might be supposed from the commonly received doctrines of medical science. I do not make this remark, however, as applicable to anything but their material expressions; for the difference as to essential nature between truly normal and abnormal phenomena, must, of course, be wide. But in our conversation with the material world, either natural or unnatural, we can learn about it only through the intervention of material forms. It is in this way that we have learned all we truly know in physiology, and it is in this way that we are now to inquire into Pathology, and if from the minute character of our inquiries, the expectation is raised that thereby will be solved the mystery of the intimate nature of disease, that expectation will certainly remain unfulfilled and disappointed. In a general way it may be said that pathology is but an erring physiology. This expresses a great deal that is true of its nature; and although, perhaps, not the whole truth, it approxi-
mates so closely, that it will serve as the basis of our inquiries. Such a view is well calculated to remove from the mind many erroneous notions; one of which, for instance, is that disease is a self-existing entity, which notion, if well entertained, cannot but impede our correct interpretation of its phenomena, for we shall be constantly struggling between a fancy and a fact. Then, again, the ideas which we have of health and disease must be relative, since we have no positive data by which the one can be determined in contradistinction to the other. Our idea of normal life must be extremely indefinite, and especially so when the steps of its transition to that which is abnormal, have not been well made out.

Another question, which arises at the outset, is—Does disease always have a material expression, and that, too, of a corresponding and invariable character? A negative answer to this would be deemed by many as quite unphysical, not to say unscientific; but in the present state of our knowledge, I must regard it as by far the one most correct, for we are to reason from what we know, and although analogy is of great service in such matters, yet we cannot be too careful of its use. We should very naturally say, that in virtue of the great fact constantly before us, viz., that vitality has its expression only in organization, which is tangible and capable of being analysed, so should we always have a tangible expression of any perversion of that vitality. This may be very scientific, but at present it is negatively so only, for there are many transitory morbid changes of the vital phenomena—many morbid conditions, known by the name of functional, which leave no traces in the matter or organ in which they occur, at least as far as we can now detect by the most careful research. Too high an estimate must not therefore be placed upon these intimate microscopical studies of pathological conditions and phenomena. In the first place, with all the material product at our command which we could ask, we must expect to know of disease only subjectively; and in the second place, we must not be surprised to meet with many of the best expressed pathological phenomena holding apparently no corresponding material relations.

If these two points be well borne in mind, much error and confusion will be avoided.
But let us return to our original proposition: Pathology is only an erring physiology. We can understand from this why that the genesis and general laws of pathological cells should be the same precisely as those of physiology. And I make here this general statement founded upon a pretty widely extended observation—that, both as to their genesis and general aspect, as cells, those which belong to abnormal, cannot be distinguished from those belonging to normal conditions of life. The genetic and general relations of cells in physiology and pathology are therefore the same, but the bifurcating point in the road appears when we begin to inquire about the destiny of each. Physiological cells must always be considered teleologically, that is, as having relations with a future and determinate result, in the attaining of which, they fulfil their destiny; with pathological cells, however, all these conditions are absent. They exist as cells in virtue of the previous existence of a formative material, which must have an organized expression of its forces. This expression is necessarily a cell, but there it ends, it sustains no higher and future relation for a definite result.

Abnormal cells, or rather cells produced under abnormal conditions of life, therefore, are not characterized by any type or true individuality. I know very well that some, such as those of pus, tubercle and cancer, have an uniformity of appearance quite remarkable, but I cannot regard this as having any teleological signification at all, but rather as due to a corresponding uniformity of condition of the abnormal plasma in which they are found. I do not think that this view at all disparages the scientific accuracy with which they should be described, for experience has shown us that this uniformity of abnormal plasma is so constant, that it may always be counted upon in our determination of its products. With these considerations, founded on fact, the distinctions between physiology and pathology as based upon cells, are therefore not only broad, but definite as far as they go. I may say, farther, that they are the only distinctions upon which we can at present insist; remove them and I can perceive no reason why all our pathology should not at once be resolved into physiology. It may be asked if this resolution of the two into one is not desirable, as simplifying our ideas of organic life, both normal and abnormal? I
say no, even were it possible, for it immediately takes away from the phenomena of organic life their philosophy as manifested in their teleological bearing.

There is one other result which may well be deduced from the foregoing remarks: it is that all pathological products are necessarily infra-formations—they are below the standard of those of health, of which they may, or may not, take on some of the characteristics. Pathological formations may be divided into two kinds, only; viz: 1st, those which simulate the type of the healthy tissues, called homeomorphous, and 2d, those which have characteristics of their own, called heteromorphous. All abnormal products are necessarily one or the other of these kinds. It is true that the latter are most important in a practical point of view, on account of their peculiarity of life, widely separated as it is from that of normal forms. Such, for instance, are cancer, tubercle and pus. Under the former, on the other hand, are included all those forms of tissue which are abnormal, not so much because they are dissimilar from healthy forms, but because they want very much their definite character as active tissues towards a conservative, economical end in the economy. They are therefore less severe and more amenable to treatment; but still, in an histological point of view, they are not the less worthy of our consideration.

It is difficult to get hold of this subject unless we take it up in a particular manner. Pathological products, as material forms, are superventions in and upon the healthy parts. In a causative point of view, they are therefore referable to nutrition and its perversions. And I shall take up the subject in this light, even though there is necessarily a blending of physiological and pathological phenomena.

Two conditions mark the existence of the healthy living tissue—these are decay and repair; the former occurring because the tissue is living; the latter because to live it must preserve its physical identity.

This round of actions constituting the sum total of those making up the live adult tissue, have their foundation in a function which we term nutrition. A word to which in later days we have been inclined to give a more pregnant signification than in former times; and this, because it thus embraces in
function, either directly or indirectly, the whole phenomena of animal life. Many have thought that the relations of reproduction, or the origin and rise of the new being, should be viewed as belonging to another category of actions. But they have allowed themselves to be deceived by the importance of these processes; for we have seen on a preceding page, that such phenomena are only cellular, and are therefore only those of nutrition seeking an individuality of expression.

Nutrition, then, being considered as the basis of physiological science, it will be my object to show that its perversions can be viewed as the foundation of our rational pathology.

But, that my meaning may be fully comprehended, I will run over briefly the leading features of this nutrition as a physiological function—a task which I have hitherto omitted, anticipating as I did, its consideration more properly in this connection. This is not a new, but it is a most important physiological truth, that the blood or its analogue is that from which all the conditions of nutrition arise. It therefore follows that in it we should clearly recognise the elements of all these different tissues. The blood-vessels form a series of channels permeating the tissues, and terminating as it were in a set of vessels, functionally different from either arteries or veins—the capillaries—which are the dispensers of the nutritive fluid to the tissues; and although they cannot be traced minutely into every tissue or part, yet their function on such tissues is always indirectly felt.

It is asked how these capillaries are the immediate agents of this nutritive function. It is by their transuding through their parietes into the parts through which they pass, the hyaline plasma of the blood, and which is immediately appropriated by the contiguous tissue, or transferred by endosmosis through granular or cell-structure, to those more distant. This hyaline blastema is structureless, but it contains within itself the elements of structure. It is entirely amorphous, but it possesses in a latent form all the individualities of the different tissues. After effusion, it may serve its function as a pure plasma, by bathing the tissue and filling the vacancies made by liquids passed away. But this, I think, is not common, and belongs almost exclusively to the sclerous tissues. It gener-
ally gives rise to more solid products. These are utricles and cells with all their various metamorphoses. The primitive utricle appears as the first material expression, and in tissues of a purely utricular character, such as the muscular, the development does not extend beyond this point, but as such they are appropriated. But in tissues having an existing cell-structure, these utricles pass on to cells, replacing those passing away. I believe that this hyaline plasma, immediately upon its effusion, and before the primitive utricles have appeared in it, is, whatever be its locality, identical in character. The reason why it has afterwards so many ultimate expressions or developments, appears to me due to another cause. It is that directly upon its transudation it receives in coming in contact with a tissue, the impress or type of that tissue; so that whatever the former may be, the plasma in serving any purpose follows directly in train of the idea on which the tissue is expressed.

Let me illustrate this doctrine by referring, for example, to the epithelial tissue. This, as we have already seen, is composed of a layer of cells, situated upon, and attached to a basement membrane. The cells thus attached, whatever be their function, are constantly passing away, and must be renewed. To effect this last, a plasma is effused by the contiguous vessels; this, as soon as it comes in contact with this tissue, takes on its epithelial type, and the primitive utricles developed in it, immediately pass on to that ulterior condition of epithelial cells. Other examples might be cited to show in the same way this beautiful type-form of tissue; without which the continuity of structure could not be maintained. The full appreciation of this idea cannot be two strongly insisted upon, and I will again express it in a laconic way: A liquid containing the elements of structure, upon being brought in contact with a living solid, is immediately impressed with the type-character of the latter, and therefore must subserve its repair. It is not properly a selective power of the tissue, but a living act, occurring because the tissue has an individuality of its own which it can impart.

I wish that I could illustrate this by any reference to common examples of animal life: but as it is one of those immaterial acts in physiology, we can appreciate it only by the recognition of the fact.
I might, perhaps, liken it well to the act of fecundation, in which a spermatic particle, by simple contact with the ovum, impresses upon it the full type of the male parent; and, to carry the comparison still farther, if the completeness of an individual can, in this way, be thus stamped upon an ovum; so, in the same way in the act of nutrition, may the singleness of a tissue be stamped upon a hyaline plasma.

I regard the recognition and application of this type-power of tissues, as one of the happiest results of modern physiology, not only as illustrative of the higher tone of our present studies in this direction; but also, as enabling us to grasp many of the hitherto hidden forms of function in this science.

On account of its value as the hidden spring of the various nutritions, let me still farther notice its character.

If it is asked what is this type-power, I should say that its nature can be best expressed by an imperfect metaphor. It is the memory of the immaterial idea on which a tissue is developed, still persistent during its material life. And to carry the metaphor still farther, this memory may be bright and active, or may be fast fading away, according to the age of the tissue.

The younger the tissue, the more full and complete is its individuality and type-power, and if it suffers a lesion in its very early life, this breach of continuity is thereby so thoroughly repaired, that its physical identity is preserved. This is the reason why in wounds with very young children, the healing of them leaves no cicatrix. The type-power extends fully and completely into the plasma effused for repair, and this repair therefore has all the character of true interstitial nutrition. As the individual advances in life, and passes into, or beyond its adult period, this type-power appears to die out, or at least to lose some of its strength. This is the reason why at that time lesions are not perfectly repaired; the material not taking on the character of the contiguous tissue, and an adventitious product occurring in the place of the lost part. The same reason may be assigned for the fact, that tissues having suffered no lesion, sometimes atrophy, the plasma effused not being appropriated, but which, taking on a new character, may give rise to new and morbid forms.

I might enter more fully into the consideration of this most
interesting subject, and it would afford me much pleasure to take up its illustration in some of the most delicate tissues in both man and the lower animals. But at this time, I have thought proper to sketch only its general character, and which is to serve as the foundation of considerations of another character soon to follow.

It is quite necessary that we should be very familiar with this great high road of physiology, in order that we may well know where the by-road of pathology divides from it.

Thus far, we have seen that two conditions are necessary for correct and healthy nutrition. These are: 1st, that the plasma effused shall be healthy, and such as may be fit for appropriation, and 2nd, that the type-power of the tissue to be nourished, shall be sufficient to make the appropriation. Such being the requisites of the healthy nutritive process, the perversion or suspension of one or both of these conditions, gives rise to what has been justly termed abnormal nutrition—a state of the animal tissues, which we have good reason to believe is at the very foundation of pathology. To illustrate clearly this point, we will take up separately each division.

I. Perversions of the character of the Plasma.—There appears to be a law of affinity, or congruity of action in tissues, which must be regarded as a very powerful conservative of their integrity. By this, I mean, that when the circulatory vessels do not contain the proper elements for the tissues, the latter do not call for the effusion of their plasmatic liquids—or, to impersonate the matter, as would, perhaps John Hunter, I should say, that the tissues perceiving the incongruity of the nutritive fluids, refuse to have them effused; but still it often happens that this inappropriate plasma is effused, and then, not being at all reconcilable to the type of the tissue, yet possessing a certain vitality of its own, and which perhaps is still further urged on by the very fact of its being in contact with, a living tissue, the course which it pursues is wayward and thus we have heterogeneous pathological products. This perverted or abnormal plasma varies much as to its capacity, but is always below that of health. Its capacity is expressed in the character of its products; when quite low, granular and low cell com-
pounds are the result. Such, in fact, are pus and tubercle which appear to constitute the lowest expressions of a plasmatic formative power. When of a higher character, it gives rise to the highest pathological products, which often seem to have a kind of individuality of form and function. A good example of this is seen in cancer.

The heterogeneous products, then, of pus, tubercle and cancer, I have considered as due to perversions of plasma. But, perhaps, the subject will come home more clearly to the mind, if I say that inflammatory products may be regarded as due to this same perversion of plasma. I do not mean to say that such products can always be traced as the results of inflammation; but, as far as yet studied, there appears to be here a connection, at least, assuring us that when we shall know more of the matter, our most comprehensive idea of inflammation will include all the conditions under which heterogeneous products occur. In touching, then, here upon the subject of inflammation, I shall not be considered as diverging from the main point of our discourse.

I do not pretend to define inflammation, because I think we have not yet sufficient data to convey to the mind a clear idea of its character; still, if I say that there appears to be coexistent with it a want of healthy relation between the bloodvessels and the blood, I think I have stated pretty clearly all that which is really known about the matter; and even then, it is very far from being certain if their absence of relation is not the first known effect, instead of the cause of the inflammatory process.

It is therefore a waste of time to dwell upon that, the nature of which we have yet so feeble an appreciation of. We must take the results as we find them, waiting for the ultimate cause until we have more data. I have said that the first visible sign of inflammation is an absence of the healthy relation between the bloodvessels and their contents: this leads to a partial suspension of the function of both, and also that that function which does occur is of an abnormal character.

When the otherwise nutritive processes are very active, scarce any appropriation of this plasma takes place, and the products arising in it, viz: granules and corpuscles seem so
alien to healthy tissues, that they are expelled as foreign substances; such is *pus* in all its forms, and such, I think, there is reason to believe, is tubercle also. When, however, the process is less active in its character, the plasma is appropriated to a certain extent, but the tissues thus badly nourished sink below their normal type, and when these conditions are kept up for any length of time, they seem to take on a character of their own. This is often seen as one of the consequences of a previously acute inflammation of an organ, but especially is it observed in indolent ulcers. It is thus that we see that the long continued use of a perverted plasma, by a tissue, serves to modify the type-power of the latter. And, in speaking of the minute pathology of some organs, at a future time, I shall have occasion to enter more fully into the peculiarities of these changes and their consequences.

It may be asked how the etiology of cancer can be considered as belonging to the perversions of the plasma. The reply to this, is, that although eminently a morbid product, it differs widely from those of which we have just spoken, and this, in possessing in a high degree, a life of its own. The plasma in which it takes its origin has a capability not much below that of health, but still has a character as different as the results produced. Although passing on to the higher cell-structure, its inferior character is betrayed by the objectless nature of its termination; for these cells appear to be the ultimate result of a morbid action, rather than the material agents through which a higher function is to be performed.

The cancerous structure, however high it may appear in an anatomical point of view, is aimless and without function.

In speaking then of pus, tubercle and cancer, as the results of a perverted plasma, heteromorphous products, I think I can best express their mutual relations and dissimilarities, if I use a figure, and say that normal nutrition being considered the great high road, those forms of abnormal nutrition producing pus and tubercle would be considered as small roads diverging from it at nearly right angles; whereas, that form producing cancer would be considered as a much larger road, and diverging at a smaller angle; in fact, often afterwards running parallel with it. But all these diverging roads never get back upon
the main one, and therefore have a termination unlike any thing of true function.

In concluding this section, the relations which this perverted plasma holds to inflammation, may be thus briefly stated. We cannot conceive of this want of harmony between the action of the capillaries and the constituency of the blood, unless we suppose at the same time an existing cause. Now, as it is true, that the more we investigate minutely their conditions, the more do we find the inflammatory process co-existent, and, as in the instances of pus and granular forms, the relations of cause and effect can be directly traced, we have a right to infer that the same is true, even although their relations cannot be fully made out.

And so, on the whole, we seem to be justified in regarding inflammation, whatever is its nature, as a condition always preceding, and in all probability causing this perversion of the effused plasma, and therefore the immediate cause of pathological heterogenous products.

II. Perversions of the type-power.—We now enter upon the consideration of quite another class of phenomena. The vessels being healthy and the blood normal, they cannot be viewed as being in the same category as those of inflammation we have just considered. I have therefore thought proper to designate the results of such conditions as the homogeneous non-inflamatory products: in fact, they are forms, which, while they are really morbid, partake nevertheless of the type of the healthy tissue, as far as that condition will allow.

We have just seen how, when the type-power was good and the plasma bad, the dissimilar results were referable almost entirely to the plasma. We shall now see that where the inverse is true, the results produced have more an affinity with the tissue, than with the plasma. In one sense, it can scarcely be called a perversion of type-power, but rather a decrease or increase; but on the other hand, these words do not express the whole; for, besides these variations of amount, there is involved a pathological principle not easily or readily expressed.

Suppose that, from some unknown cause, the type-power of an epithelial tissue in the body had become changed. The nor-
mal plasma is thrown out as usual, but it is not delicately and nicely appropriated as in health; and although the tissue has given it its impress, yet this is all, for the relations of size and shape appear to be absent. There therefore appears a new form, which, while it bears the outward aspect of the healthy tissue, is an abnormal product; it is, as it were, the representation of disease, under the garb of health. This product is epitheloid, but not epithelial. Such, for instance is the so-called cancer of the lip, the cancer of the antrum, &c., &c.

In the same category may be considered many, if not all, the hypertrophies of tissues. Where a product appears with the general character of health, but with the profligacy of disease.

It is not difficult for us to understand how, in some of these immense growths, a sufficient amount of plasma is supplied; for it appears to be a law in the nutrition of tissues, that the greater the demand the greater the supply; and, so when the demand has once been made, even by a morbid product, it is furnished and the whole may go on increasing, the vessels conforming to these changes exactly as though a healthy tissue was experiencing a rapid normal growth. But, if we thus have products, from what, in one sense, may be called an increase of type-power, constituting hypertrophy, there is quite a different class arising from a decrease, in fact a suspension of it, and which ought in this connection be noticed. I cannot say that it is primitively of tissue-origin, but, at any rate, it seems to be a dying out of the type-power; in fact, so thoroughly is this the case, that the individuality is gone and nothing is appropriated; and in accordance with the law just mentioned, there seems ultimately to be scarce any supply; and then the tissue loses its physical identity and gradually recedes to its primitive utricular condition. This condition of things has generally been considered in the light of an atrophy, but I have thought that it merited a distinction, and have proposed for it the name of retrograde metamorphosis. Its leading characteristics may be thus briefly stated. Bichat's definition of life, as applied to an individual, was, "the sum total of the functions by which death is resisted." Now, what applies to an individual, may be taken as at least applicable to a tissue. Its life consists in the conservation of those two conditions by which its integrity
is maintained. These, I have already regarded as involved in what is called nutrition; the balancing of decay and repair. Now, whatever function a part may discharge, it is necessary that it (the function.) should be kept up in order that the nutrition should continue normal; when, from either an unknown cause, or from suspension of function, it ceases to have that even changing vitality, then it seems to lose its type-power, and the small quantity of effused plasma is feebly appropriated, the vital cohesion of the tissue in part disappears; so that although there is strictly no decomposition, yet the individuality of the part is gone, and with it all those forces that elevated and sustained its character above that of the primitive elements. We have, then, in place of the normal tissue, what is called a granular mass; and as such it cannot be called a special product, for it is alike, whether it occurs in a muscular or a glandular organ. It consists simply of oil and albumen, uniting in their usual way. This point, however, will be touched upon at a future time. I have said that this condition differs from true atrophy; for this last can scarcely be regarded as an abnormal state, it being only a decrease of tissue-function, and which we see daily exemplified in the muscular tissue. The same is true in an inverse sense of true hypertrophy; and which is not, as I have before said, the cause of homeomorphous products. They are both rather variations of nutrition, as to quantity, than as to perversion.

Such is a rapid survey of some of the perversions of nutrition which lie at the foundation of many of our best views of pathological changes. It may be asked, if under this head may be included the causes of all pathological phenomena having their expression in a material product? With our present knowledge, I do not think that the question can be positively answered. Nevertheless, I think I am safe in saying that the tendency of the present enquiry is to show that in abnormal nutrition is to be found the causes of all organic pathological changes.

These considerations may perhaps serve as the ground-work of our subject, it being now our task to look into the specific character of its details. I shall therefore, take up first, the subject of hetero-morphous products, each in its proper character,
commencing with the lowest. But before this, the phenomena of inflammation as elucidated by the microscope should be considered, and this will serve as a proper prologue for the next lecture.

**ARTICLE XV.**


Since the publication of Dr. Norwood's articles on veratrum viride, I have extensively employed it in the treatment of Typhoid fever and Pneumonia, and with the most gratifying success. I would, therefore, most cordially adduce my experience in support of the remedy, as being at once safe and efficient. Before I became acquainted with this valuable agent, I regarded the treatment of a severe case of typhoid fever with something like dread, as to its results, but now I am less concerned about my cases of this disease, than of other affections generally deemed more trivial. A brief notice of a few cases treated with this remedy, will not, I hope, prove unacceptable to the profession, and will, perhaps, induce others to make trial of this valuable agent.

**Case I.** Rebecca, aged 8, daughter of Mr. F. I was called to see her on the 5th Oct. last. She had been suffering under the premonitory symptoms of typhoid fever for four or five days, and the disease was now fully formed. There was headache; hot, dry skin; small and frequent pulse; tongue coated with a whitish fur, with tip and edges red and rather dry; loss of appetite, amounting to a disgust for food. There was tenderness of the abdomen in the right iliac region, pressure over which produced the gurgling noise, so characteristic of this affection—no diarrhoea. I prescribed pil. hydrarg. gr. v., to be followed, if it did not act on the bowels, by castor oil. Scarified cups were applied to the abdomen—pepper poultices to be used subsequently. After the bowels were cleared, neutral mixt with a minute quantity of tartar emetic. (I had no veratrum viride with me.)
Oct. 6th. Called and found my patient in pretty much the same condition: had two evacuations from the bowels, without taking oil; headache somewhat relieved; abdomen still a little tender; pulse 130. Discontinued previous treatment, and ordered tinct. verat. vir., to be given in doses of three drops every three hours, and if nausea, emesis, or a reduction of the pulse did not take place after giving three or four doses, to increase the dose one drop each time. Pepper mush to be kept constantly applied to the abdomen.

7th. Called eighteen hours afterwards. Patient had vomited once, a short time previous; skin cool; pulse reduced to 80: the vomited matters consisted of a quantity of mucus and watery fluid. The dose of tinct. veratrum had been increased to six drops. Directed it to be given in doses of four drops every four hours. At my visit next day, the patient seemed entirely free from fever—pulse 72, soft and full. Bowels had acted twice since previous visit, dejections resembled what had been vomited. The dose was now reduced to three drops, repeated at intervals of three or four hours and continued for several days, for fear of a return of the fever, after which it was discontinued—the patient convalesced rapidly.

Case II. Henry, aged 10, brother to the above. Called 20th Oct. Found this patient with symptoms very much resembling the first, though more severe, particularly the headache. The parents had administered a dose of epsom salts, the bowels having been constipated. The salts, however, operated drastically, and diarrhoea was subsequently very obstinate. There was considerable tenderness in the right iliac region, and gurgling on pressure. Cups were applied to the temples and abdomen, followed by poultices to the latter; hyd. c. creta et pulv. Dover, in small doses, for the diarrhoea, and the patient at once put upon the use of tinct. veratrum, in small doses, gradually increased. Gum-water was the only article of drink or food allowed.

Oct. 21st. Patient complains less of headache; pulse reduced from 130 to 84; has vomited once or twice without much nausea; diarrhoea still persistent, yet the discharges are not so watery. Continue same prescription—the veratrum in slightly diminished quantity.
22d. Diarrhoea rather worse, there being frequent watery discharges, telling rapidly on the strength of the patient; tongue dry and red, but the skin cool, and pulse only 70; no nausea. The family were averse to using the syringe, or I should have directed opiate enemeta; as it was, I had recourse to acet. plumbi combined with pulv. Dover., a dose of which was given every two hours, veratrum to be continued in small doses.

23d. Patient is better to-day. Bowels have acted but three or four times in the last twenty-four hours; tongue less red and dry; pulse still about 70, full and soft; skin cool and moist, no tenderness of the abdomen, though it is still a little tympanitic. Continued same treatment.

24th. Better in all respects; diarrhoea is sufficiently checked; tongue is becoming moist and clean; abdomen more natural; pulse and skin about natural. Discontinued my visits. Next day the pulse showing a disposition to rise; the father called on me again, and not being well enough to ride, I gave him some of the tinct. veratrum, of which he gave small doses for a few days, with the same happy results. Recovery was slow, but steady and perfect.

Case III. A negro girl, aged 7, the property of Mr. H——, was called to her on the 6th Dec. She had been ill for more than a weak previous, and the disease was now fully formed, and unusually severe. The pulse was feeble and very frequent, amounting to 140; the tongue was quite dry and red; the abdomen tender and very much distended; diarrhoea, also, was present, there being from six to ten discharges daily of a watery fluid, resembling new cider. She was more or less affected with delirium, particularly at night. Scarified cups were applied to the abdomen, followed by poultices; small doses of acet. plumbi with Dover's powder were given every two hours, and tinct. verat. vir., every four hours, commencing with three drops and increasing one drop at each dose until its ordinary effects were obtained.

7th. Patient has less fever this morning; pulse 110; diarrhoea almost as bad as ever; patient rested better through the night, though there was slight delirium. Ordered in addition to the lead and Dover's powder, laudanum injections, and applied a large blister to the abdomen. The veratrum to be continued in full doses.
8th. No fever to day; pulse 80, full and soft. Patient this morning passed about eight ounces of nearly pure blood from the bowels—blister drew well and the abdominal distention is diminished. Directed acetate lead and opium in large doses, to be repeated as often as could be well borne—veratrum to be continued in diminished doses.

9th. Patient is much better: no hemorrhage from the bowels nor watery stools; pulse 75 and natural; tongue is becoming moist and clean. Left off all medicine except veratrum, which was still to be given in very small doses.

13th. Saw this patient, and she seemed so much improved that I ceased visiting her—directed the owner to watch her for a day or two, and if she took fever again, to resume the use of veratrum and send for me.

16th. Was summoned in haste to this patient. She had, a few hours before, been attacked with severe pain in the lower part of the abdomen, which rapidly spread over its whole extent—the abdomen was so tender as not to bear the weight of the bed-clothes without pain. The pulse was a mere thread, and so frequent as scarcely to be counted; respiration short and hurried; stomach very irritable—in short, she had all the symptoms of peritonitis, and caused, undoubtedly, by perforation of the intestines, allowing the contents to escape into the cavity of the abdomen.

I attempted the administration of large doses of opium, hoping that under its influence, in connexion with perfect rest and the avoidance of all substances internally, which could in any way disturb the bowels, the system might be supported until adhesive inflammation might possibly unite the perforated intestine to the adjacent parts. But such was the irritability of the stomach, that nothing could be retained, and reluctantly I had to abandon the case as utterly hopeless. She died 18 hours after the commencement of the symptoms of peritoneal inflammation.

I regret exceedingly that I had not the privilege or time to make a post-mortem examination; yet I am confident that the disease was in the first place typhoid fever, and that the fatal termination was due to perforation of the intestines, followed by general peritonitis. Equally certain am I, also, that
had not perforation of the intestine occurred, this patient would have recovered.

**Case IV.** Mr. S., aged 30, and of delicate constitution. I was called to him on the 4th Jan. last—he had been in bed for four or five days—I found him with the usual symptoms of typhoid fever, in addition to which he had pain in the left side, a distressing cough, and was expectorating the rust-coloured sputa, as characteristic of pneumonia. On examining his chest, I detected inflammation involving the lower half of the left lung, and, seemingly, verging into the second stage, or that of real hepatization. His tongue was covered with a whitish fur, with tip and edges red and dry; bowels acted about twice a day, without medicine; abdomen a little full, though nearly natural; no appetite whatever. Pulse 128, and without much strength; respiration hurried and laborious.

He was already much prostrated, so I contented myself with the abstraction of a couple ounces of blood from the side by cupping. I at once put him upon the use of tinct. veratrum viride, in doses of eight drops every three hours, gradually increasing the dose until nausea, vomiting, or a reduction of the pulse was induced. Not feeling satisfied to trust the life of my patient to this remedy alone, (I had not used it in such cases,) I desired to employ, in conjunction with it, an alterative mercurial course, but no reasoning or persuasive power of mine could induce him to give his consent. He had once been under the specific influence of mercury, and now declared that he would take no more of the subtle mineral.

5th. Patient seems in much the same condition, with the exception of fever. On increasing the veratrum to twelve drops, slight vomiting, without (as the patient said) nausea, was produced, and the pulse came down to 90, at which I found it. Has still some pain in the side, particularly on coughing; expectoration free, and redder and less viscid than in sthenic pneumonia. Applied a blister, 6 by 8 inches, over the inflamed lung; directed veratrum to be given, in full doses, until the pulse was reduced to 70, then diminished one half, and continued.

6th. Better to-day; veratrum is well borne, has reduced the pulse to 68. Respiration slow and easy; cough less trouble-
some, and expectorates freely; no pain; blister has drawn well: tongue tremulous and pointed, but moister; bowels move about twice daily; abdomen slightly distended. Veratrum to be continued in doses sufficient to maintain the reduction of the pulse, and along with it, small and frequent doses of the decoction of polygala senega.

7th. Patient still better; feels stronger since taking the sene-ka. Pulse rather below 70, and strong enough; respiration good, though, of course, a little hurried. Continue same treatment.

9th. Patient still improving; has gained a little more strength; takes light nourishment with some relish. Blister is healing, and the solidified portion of lung is becoming permeable to air, though slowly; the cough is better, and expectoration diminished and more natural. Still to take small doses of veratrum, and sulph. quinine grs. ij. thrice daily, as a tonic.

11th. Called and found patient doing well in every respect, except that his bowels were much too irritable, there having been three or four watery discharges in the last twenty-four hours. Prescribed a combination of acid. sulph. aromat. with tinct. opii. in sufficient quantities to check the diarrhoea; the tr. opium then to be continued, or omitted, as should be necessary; the acid to be taken freely as a tonic. The patient now improved, and has recovered without farther treatment.

One or two remarks, and I have done. It will be seen that I have not depended on veratrum viride alone, in the treatment of the cases in which I was employed, but have called into requisition other agents of acknowledged therapeutic value, and, as I believe, with better effect than could be obtained from its single action. At the same time, I am confident that without the use of this extraordinary medicine, I should, within the last few months, have lost many patients by typhoid fever and pneumonia—indeed, since I have learned its valuable properties, I would not know how to dispense with it. About a year ago I had a case of typhoid pneumonia, similar to the one above stated, which, in spite of my best directed efforts, ran on to a fatal termination. Had I, at that time, been acquainted with the properties of this invaluable medicine, I have not a
Remarks upon Mrs. Willard's Theory, &c. [May,

... doubt but I could have saved this patient. Something was wanted to control the excited circulation, which was beyond my reach. Although it is not the only medicine to be depended on, it is certainly the chief one. I have used the remedy in at least a dozen cases of pneumonia, after depletion, when that was indicated, and with a success beyond any thing I ever anticipated. With the exception of the case reported in this communication, (Case iii.,) I have not lost a case in which I have used the remedy. In a general way, I have not found the medicine act harshly or disagreeably,—it is true, it sometimes makes the patient deathly sick, but its unpleasant effects are easily obviated, and after the system is fully under its influence, its unpleasant effects usually soon pass off. It is applicable to many diseases, but is particularly suited to pneumonia. By reducing the circulation, it very materially lessens the amount of labour thrown upon the lungs, a circumstance greatly to be desired, when we remember that well established principle—an inflamed organ must have rest. I have found it to possess all the powers and properties ascribed to it by Dr. Norwood, yet I have usually found it necessary to continue it a day or two longer than he directs. I use the saturated tincture of the root.

ARTICLE XVI.

Remarks upon Mrs. Willard's Theory of the Motion of the Blood, and Dr. Cartwright's Experiments. By Wm. T. Grant, M. D., of Culloden, Ga.

We feel considerable embarrassment in writing an essay on a theory advocated by so celebrated a member of the Medical profession as Dr. Cartwright; but, as we are writing for information, we think we may dismiss this without more ado.

Dr. Cartwright establishes his theory of the motion of the blood, by ocular demonstration, in the form of experiments on the alligator. In reply to this, we would cite an animal, that belongs to the same class as the alligator, and also to the same order, by which we can prove the very opposite to that which he has so satisfactorily proved by his experiments on the alli-
The animal to which we refer, is the frog. It is a physiological fact in natural history, that in the frog, the circulation is carried on, without any assistance from the air; when the animal is in the dormant state. Now, as said above, the alligator and frog are animals, both of which belong to the class called Amphibia; so then, everything being equal on this point, in these two animals, the argument deduced from experiments on the frog, performed by Naturalists long ago, serves us to counterbalance that drawn from experiments performed on the alligator by Dr. Cartwright, and as they are equal, it is necessary for the advocates of his theory to advance others in its support.

But, then, there are objections to his theory, some of which it is our object to bring forward; and we will first lay down a premise, viz: if the theory be true, it is consistent with every anatomical and other truth with which it has any connection, and furthermore it harmonizes with every fact that is a fact, by which it is surrounded.

In the first place, then, "like causes will produce like effects," under any circumstances, at any time, and in any place. Now, to apply this to the point in question: it means, that as the motion of the blood is produced by the action of the air on the blood, under certain circumstances, it ought, cæteris paribus, to do the same in certain other circumstances. Or, in other words, if the air acting on the blood, which is the cause, produce the motion of that blood, which is the effect, under certain circumstances, then the same cause must produce the same effects under other circumstances. If then this cause produce this effect in a living man, ought not the blood to flow in the dead man, if artificial respiration keeps the air acting on the blood, from the moment that natural breathing ceases? And cannot the system, in the same way, be made to perform all the functions natural to it, in the dead as well as the living man; the warmth of the body be kept up; the different organs secrete the juices peculiar to them—and indeed, everything that is not dependent on the will, be carried on as well after as before death? This new theory would answer these questions in the affirmative, but it is useless to say that reason proves the fact, that such is not, cannot, and will not be the case. So then the theory is inconsistent here.
The second objection is axiomatic: if, in any case, the cause ceases to act, then the effect is no longer produced; but, if the effect ceases, it does not follow that the cause must likewise cease. Now, to apply: If the action of the air on the blood, the cause, ceases, then must the motion of the blood, the effect, also cease, which is not always true, as is proved by reference to several of the lower animals. This latter opinion, was held as Dr. Cartwright says, by Bichat. So, then, the theory is inconsistent here.

The third objection may be embraced in the following words: "This theory mistakes the effect for the cause." Now, to prove this. "When the chest expands, the lungs follow, and consequently a vacuum is produced in their air-cells. The air then rushes through the nose and mouth into the trachea and its branches, and fills the vacuum as fast as it is made." And when the chest is contracted, the air is expelled from the lungs. This then is breathing. Now, then, whatever causes this alternate contraction and expansion of the diaphragm and chest, must be the prime cause of breathing. The blood does this, therefore it is the cause of breathing; and we can prove that the blood does do it. All the muscles are divided into two sets—the voluntary and involuntary; the involuntary muscles act independent of the will; and their action must have a cause, and this cause must be inherent, or dependent on something external to the muscle. It cannot be inherent, for in that case, if one of these muscles be taken out of the body, it must move about in consequence of its inherent principle of action. Therefore, it must depend upon something in connection with the muscle; now then, when this is taken in connection with the fact that the power of the muscles is greatly exhausted by a copious depletion, it proves beyond a doubt that the blood produces the action of the involuntary muscles; therefore, we come to the conclusion that respiration is the effect and not the cause of the motion of the blood. It is not necessary to explain how the blood produces the action of these muscles, but it can be done in a few words: it acts as a vivifying and stimulating principle in all parts of the system and especially on the muscular fibre. So then the theory is inconsistent here.

* Cutter on Respiration.
As it seems that some of the profession are dissatisfied with the old explanation of the motion of the blood, and as new theories are advanced on almost every subject, we think it could not be considered presumption in us, if we were to advance a new theory; and we embrace this as being a good opportunity, more especially as it is on the very question that we have been discussing. Our theory of the motion of the blood is simply this: the motion of the blood is caused by galvanism, the heart, arteries, veins, and capillary vessels acting as a battery, one pole of which is situated in the heart, and the other in the capillaries. This is only our opinion, and as such we advance it in the form of a theory, hoping that those who have more advantages than we, may put it to the test and sift it well. We have reasons for entertaining this opinion, but think it unnecessary to give them to the public at present. We think with this theory of the motion of the blood, a great many things that are now considered as inexplicable, can be easily explained; the why and wherefore of the different secretions, &c., we think could be explained on this principle.

PART II.

Eclectic Department

On Healthy and Morbid Menstruation. By J. Henry Bennett, M. D., late Physician-Accoucheur to the Western General Dispensary, etc.

The Physiology of Menstruation; Dysmenorrhaea; Menorrhagia; Amenorrhaea.—The function of menstruation has been much elucidated during the last ten years by the labours of the numerous physiologists who have investigated the phenomena of generation, amongst whom stand prominent, Pouchet, Gendrin, Negrier, Barry, Wharton, Jones, Bishop, Raciborski, &c. I would, however, more especially, refer to the elaborate work on "Spontaneous Ovulation," by M. Pouchet,* in which will be found a full and complete account of his own important researches, as also of those of nearly all the ancient and modern writers on the subject. To M. Pouchet, whose life appears to have been partly devoted to the study of this interesting and

* Théorie Positive de l'Ovulation Spontanée, par F. A. Pouchet, Professor of Zoology to the Museum of Natural History of Rouen, Paris: Baillière. 1847.
important physiological point, belongs the credit of having been one of the first to broach the doctrine of spontaneous ovulation as a law in the females of all mammiferæ, and also of having established this law in the most irrefutable manner by numerous experiments, and by a close and powerful analysis of all that had been done by his fellow-labourers in this field of observation.

The researches to which I refer prove, in the most satisfactory and conclusive manner, that menstruation is intimately connected with the evolution from the ovary of matured ova, which takes place, periodically in the virgin as well as in the married female. In the human female the maturation and evolution of ova occur at frequent intervals, and are marked by the exudation from the uterine cavity of a greater or less quantity of blood. In the lower animals, the interval is generally longer, and the menstrual phenomena are less marked, consisting merely in congestion of the sexual organs, accompanied by the exudation of mucus, mingled with a few blood-corpuscles. But in both, the phenomenon is the same; in both, nature directs a tide of blood to the uterine organs, as the ova contained in the ovary arrive at maturity, in order that the uterus may be in a fit state to receive and nourish them should they be fecundated after their emission from the Graafian vesicle.

A decided physiological connexion exists between the different organs which constitute the sexual apparatus in the female—viz: the ovaries, the uterus, the external sexual parts, and the breasts. All are dormant as it were, until the advent of puberty, the great and essential characteristic of which is the development of the Graafian vesicles or ova. Previously deeply imbedded in the tissue of the ovaries, small, and rudimentary, as puberty approaches, some of their number begin to enlarge, and gradually to approach the surface. The installation of puberty and the first menstrual show coincide, and are evidently connected with the arrival of one or more of these vesicles at the full period of development. A few red streaks formed by capillary vessels are first observed on the surface of the Graafian vesicles, which protrude from the surface of the ovaries. These capillaries gradually increase in number and intensity of colour, giving the membrane on which they ramify the appearance of being the seat of acute inflammation, until at last, in the centre of the vascularized surface, an opening shows itself; the result of a tear or rent, or of absorptive inflammation; the ovule is expelled, and having been grasped by the fringed extremity of the Fallopian tube, passes down its canal, to be lost, no doubt, in the uterus, if not fecundated.

According to M. Pouchet, the opening of the Graafian vesicle and the evolution of the ovule take place either at the epoch
that menstruation ceases, or one or two days later. If this view be correct, the progressive vascularization of the proper membrane of the ovum or Graafian vesicle would coincide with, and to a certain extent occasion, the uterine congestion that precedes and accompanies menstruation; as also the sympathetic irritation and swelling of the breasts which so frequently precede and accompany the menstrual flux.

I have qualified the above statement by the words "to a certain extent," because it appears to me that the uterus is not merely a passive organ, receiving and responding only to impressions originating in ovarian phenomena, but that it exercises a marked influence over their development. Thus we find that its diseases very frequently arrest and modify in various ways the function of menstruation, and also diminish and annihilate sexual feelings and appetites. We may therefore fairly presume that they exercise the same unfavorable influence over the maturation and evolution of the ova. In other words the attentive consideration of the reciprocal influence of the uterus and of the ovaries on each other in disease, must lead all impartial observers to the conclusion that in health they constitute one system of organs, the integrity of which in its component parts is necessary for the normal accomplishment of the functions of ovulation and menstruation.

The above, I am firmly convinced, is the only true and rational view that can be taken of the uterine system both in health and in disease. To attribute both the healthy and the morbid conditions of menstruation all but exclusively to ovarian influence, as has been done by some pathologists, is to take much too narrow a view of uterine pathology, and is as far from the truth as would be the negation of all ovarian influence on uterine phenomena. The ovaries, it is true, preside over the function of menstruation, as we have seen, but the uterus cannot certainly be considered a "mere reservoir" or bladder, destined only to receive and nourish the ovum after impregnation.

The more accurate knowledge which we now possess of the cause, seat, and mode of manifestation of the menstrual function, tends greatly to corroborate the view at which I have long arrived from clinical experience, respecting irregular or morbid menstruation, viz: that it is nearly always, when strongly marked and inveterate, the result of positive disease of some portion of the uterine system, and, generally speaking, of the uterus. That such is the case must be admitted as probable, when we consider that the function, although presided over by the ovaries, is accomplished by the uterus, which contains an extensive mucous surface. Those who have hitherto written professionally on menstruation are, however, so totally unaware
of this important fact, that their works, even the most recent, are replete with cases the true nature of which they do not even suspect—cases in which it is most evident to me that menstruation was modified by positive disease, but which they view as physiological, or as the result of constitutional causes. In the present essay, I shall endeavor to point out the data by which mere physiological modifications in the menstrual function may be distinguished from modifications the result of actual disease. Although a difficult task, I hope to be able to accomplish it satisfactorily by bringing to bear on the question, the facts respecting uterine disease which I have developed at length in my work on Uterine Inflammation. I must first, however, be allowed to enter into a few details respecting the mode of manifestation of the menstrual function in the normal state.

From what precedes, it is evident that the term menstruation ought in reality to be applied to the totality of the conditions that co-exist with the maturation and evolution of ovarian vesicles. Until recently, however, the exudation of blood from the uterine organs in the human female, the all but invariable concomitant of this periodical function, having been alone observed, it has been to it only that the term menstruation has been given. The necessary connexion between the ovarian and uterine phenomena having only been discovered and established of late years, it is not surprising that the meaning of the word menstruation should have been thus limited. Henceforth, however, it will have to be taken theoretically in its more extended and truer sense, although, practically, we may still be obliged to limit the term menstruation to the uterine element, or the exudation of blood, as it is the ostensible indication and evidence of the changes that are taking place in the ovaries.

It is now universally admitted that the menstrual secretion takes place from the mucous membrane lining the uterine cavity. For one or two days before it commences, in the healthy uterus, a tide of blood sets in towards the uterine organs; and if the cervix uteri is then brought into view, its mucous surface is found greatly congested, and of a vivid hue. When the secretion has commenced, the blood may be seen to ooze gutta-tim from the os uteri. After it has ceased, the tide of blood gradually recedes, and in the course of one, two, or three days, the uterus is restored to its normal condition, the cervix assuming its naturally pale, rosy hue. If the uterus is the seat of disease, the flux to it begins earlier—often a week before. After menstruation has ceased, there is also, in disease, a great tendency to the perpetuation of the menstrual congestion, the uterus frequently not appearing to have the power to expel the menstrual blood.
Menstruation in the human female oscillates physiologically between great extremes, or, in other words, it may vary to an extreme extent in its mode of manifestation, and yet these variations may be compatible with health, and with the perfect integrity of the uterine organs. Indeed, there is not a greater difference between the human female and the female of the lower mammiferæ, in which the menstrual function only shows its presence by a congested state of the genital organs and a slight mucous secretion, than there is between different females. Thus, for instance, in some, the menstrual flux only shows itself for a day or two, or even for a few hours, throughout life, and is very scanty; whereas, in others, it lasts seven or eight days, and is always so profuse as to be all but hæmorrhagic. The physiological variations of menstruation may be referred to its epoch of first manifestation, to its duration, to the quantity of blood lost, to the amount of pain experienced, and to the periodicity of its return.

The epoch at which menstruation first sets in, is very variable, but may be said to range between eleven and nineteen or twenty, the cases in which it occurs before or after these ages being rare. The medium age, in temperate climates, according to Raciborski, who deduced it from the analysis of a large number of cases, is about fourteen—a statement which my own experience completely corroborates. There are cases on record, in which menstruation has set in as early even as the third or fourth year, but they can merely be considered freaks of nature. Climate was formerly considered to exercise great influence over the epoch at which menstruation appears, but this influence appears to have been greatly exaggerated. So far from cold greatly retarding, and heat greatly accelerating, its appearance, it would appear, from the valuable researches of Dr. Roberton,* of Manchester, that the medium age is pretty nearly the same all over the world. Raciborski finds a difference in the medium age of the cases he investigated for the north and south of Fance, but that difference only amounts to a few months, and would require to be deduced from a larger number of persons, to be definitely accepted. Menstruation generally ceases between forty-five and fifty, but the menopause may occur much earlier or much later.

The duration of the menstrual flux, and the quantity of blood lost, vary very considerably in different females. The average duration may be said to be about four or five days, but many are only unwell two or three, and with many again, it lasts six or seven. When menstruation is of short duration, the loss of blood is generally scanty, whereas it is greater when it lasts

* Essays and Notes on the Physiology and Diseases of Women. 1851.
a long period; not only on account of its longer duration, but also because it generally flows more freely. The influence of climate in this respect also appears to have been much exaggerated. The fact of menstruation being constitutionally of long duration and profuse, I have found to be a powerfully pre-disposing cause of uterine inflammation, owing probably to the intensity of the mollimen hæmorrhagicum, and to the length of time during which it persists, during which the patient is exposed to many perturbing causes. The intensity of the physiological congestion is evidenced by the fact, that for one, two, or three days before and after menstruation these females often have a slight white or leucorrhœal discharge, even when in perfect health.

With many females the first manifestation of the menses is unaccompanied by pain. The menstrual flux makes its appearance with scarcely any previous admonition of its advent, and continues to appear without pain or uneasiness; or if pain is present, it is slight and limited to the first few hours. This is the most favourable mode in which the menstrual function can take place, and the one which affords the greatest guarantee of future immunity from inflammatory disease. It is, however, by no means the rule; with many women, the first advent and the subsequent appearance of the menses, are attended, physiologically, throughout life, with great uterine pain. With some the pain is limited to the first few hours, with others it exists for a shorter or longer period before, and lasts throughout, the period.

The periodicity of menstruation also varies physiologically to a great extent. I have found that four weeks or twenty-eight days, the lunar month, is the most general term; but the periodical return of the menses may take place at any time between the third and the fifth. Most authors allow even a greater latitude; but I believe that the constant return of the menses at an earlier or later period will nearly always be found, on a careful inquiry, to be a pathological symptom, and to be connected with local disease.

From what precedes, it will be perceived that the physiological variations of menstruation—variations quite compatible with health—are so numerous and so great, that it is impossible to lay down any standard by which the integrity of the function can be generally tested. The above fact would much diminish the importance of the changes that occur in the menstrual function in disease, as an element of diagnosis, were it not that this irregularity is not observed, physiologically, in each individual case. In other words, every female has her own individual standard, to which she generally remains true throughout her life, unless the uterine organs be the seat of dis-
ease, or the general health be deeply modified by some other cause. Once, therefore, we have ascertained the mode in which menstruation occurs in any particular female, at an epoch when it may be fairly presumed that she was in good uterine health, we are authorized to surmise the presence of uterine or ovarian disease—and, generally speaking, the former—if any marked and permanent change takes place.

It is the ignorance of this important fact that has filled with errors, as I have already stated, all existing treatises on menstruation, at nearly every page of which are narrated, as physiological, cases which I at once recognise as most decidedly pathological. This circumstance, therefore, must greatly invalidate the value of the conclusions at which these authors have arrived, whether statistical or otherwise, with respect to the physiology of menstruation.—[London Lancet.

[To be Continued.]

On Irritable Uterus. By F. W. Mackenzie, M. D.

The term Irritable Uterus is applied to a painful condition of the organ, not caused by displacement, inflammation, or appreciable organic disease. It is met with in various degrees of intensity, from slight uneasiness to excruciating suffering. Although apparently a simple lesion of innervation, it is found to be a very obstinate disorder.

The slighter forms of the disorder are characterized by pain in the uterine region, increased by standing or walking, and relieved by lying down. The pain radiates from the uterus to the groins, loins and hips. A sensation of bearing down is often complained of, and there is leucorrhœa or dysmenorrhea. On examination, the uterus is found to be excessively sensitive to the touch, but not displaced, or sensibly diseased. The general health is generally feeble, the circulation languid, and the digestive organs are generally in a faulty condition. The patient will often be found to have suffered from severe mental affliction, or has undergone physical privation and fatigue, and that, as a consequence, spinal irritation and anæmia have resulted.

The more severe form of this disease has been very graphically described by Dr. Gooch. He remarks that a patient, suffering from irritable uterus, complains of pain in the lowest part of the abdomen along the brim of the pelvis, and often also in the loins. The pain is worse when she is up and taking exercise, and less when she is at rest in the horizontal posture. If the uterus is examined, it is found to be exquisitely tender. As soon as the finger reaches, and is pressed against, the uterus,
it gives exquisite pain; this tenderness, however, varies, at different times, according to the degree of pain which has been latterly experienced. The neck and body of the uterus feel slightly swollen; but this condition also exists in different degrees; sometimes being sufficiently manifest, sometimes scarcely or not at all perceptible. Excepting, however, this tenderness, and the occasional swelling, or rather tension, the uterus feels perfectly natural in structure. There is no evidence of scirrhus in the neck; the orifice is not misshapen, nor are its edges indurated. The circulation is but little disturbed; the pulse is soft, and not much quicker than is natural, but it is easily quickened by the slightest emotion. In a few instances, however, there has been a greater and more permanent excitement of the general circulation. The degree in which the health has been reduced has been different in different cases. A patient who was originally delicate, who had suffered long, and has used much depletory treatment, has been, as might reasonably be expected, the most reduced. She has grown thin, pale, weak, and nervous. Menstruation often continues regular, but sometimes diminishes or ceases altogether. The functions of the stomach and bowels are not more interrupted than might be expected from the loss of air and exercise; the appetite is not good, and the bowels require aperients; yet nothing more surely occasions a paroxysm of pain than an active purgative. Such are the leading symptoms of this distressing complaint. To embody them in one view, let the reader imagine to himself a young or middle-aged woman, somewhat reduced in flesh and health, almost living on her sofa for months or even years, suffering from a constant pain in the uterus, which renders her unable to sit up, or to take exercise; the uterus, on examination, unchanged in structure, but exquisitey tender, even in the recumbent posture; always in pain, but more or less frequently subject to great aggravations.

With regard to the pathology of these cases, Dr. Gooch observes, that the causes, to which this disease has been attributed, are generally considerable bodily exertion at times when the uterus is in a susceptible state; but he remarks, that the patients had previously manifested signs of a predisposition to it. They were all sensitive in body and mind, and many of them had previously been subject to painful menstruation. As to its proximate nature, he is satisfied by stating that it consists in a morbid condition of the uterine nerves, attended by pain, and sometimes vascular fulness; and he likens it to the irritable breast, the irritable testis, and the painful condition of the joints which is sometimes met with in hysterical females. He does not venture to explain its pathology any farther.
A consideration of the cases of this disease which have come under my notice, appears to me to justify the following conclusions:—

First. That, in the majority of instances, irritable uterus is rather a sympathetic than an idiopathic disease of that organ.

Secondly. That it is sympathetic of irritative disorder of various organs with which the uterus has intimate relations, the irritation of which is reflected, either partially or entirely, upon the uterine ganglia and nerves.

Thirdly. That whilst such reflected irritation is its immediate cause, it is remotely dependent upon a defective condition of the blood, which would appear to operate by producing a morbidly irritable state of the nervous system generally, and of the uterine ganglia and nerves in particular.

[These propositions are supported by the detail of nine well selected cases, upon which Dr. Mackenzie makes the following general observations:]

Upon a general review of the preceding cases, the first inference I would venture to draw from them is, that they are affirmative of the truth of the propositions which were advanced at the commencement of this paper. In all, the uterine affection appeared to be consecutive to, or sympathetic of, constitutional derangement or irritative disorder of other organs. In none could it be regarded as dependent upon idiopathic disease of the uterus; and additional corroboration is derived from the fact, that it disappeared, in most instances, under the influence of treatment of a general rather than of a specific character.

Another inference which may be drawn from them is, that the influence of gastro-intestinal disorder and spinal irritation are very considerable in the causation of uterine derangements. In the majority of the cases reported, these co-existed, and would seem to have had a similarity of origin. In all, they were associated with anaemia, and had been preceded by much mental anxiety. How much, therefore, is due to each in the production of the uterine symptoms in these cases, it is impossible to say. Many circumstances, however, which have come to my knowledge, lead me to believe that derangements of the uterus, involving more particularly its nutritive and secretory functions, such as leukorrhea and disorders of menstruation, have rather a gastro-intestinal origin when sympathetically induced; whilst those which affect more particularly its sensory functions, producing neuralgia and various irritable conditions, are, for the most part, connected with an irritable or morbid condition of the spinal cord.

But it is not contended, that hysteralgia is in all cases neces-
Irritable Uterus.

sarily connected with spinal irritation, or gastro-intestinal disorder. I believe them to be very frequent causes, but I have met with instances in which it existed irrespectively of either. In gouty and rheumatic subjects, considerable uterine pain, more or less of a persistent character, is often met with, doubtless of a gouty or rheumatic nature; and I believe that severe irritation of any important organ or nerve may, under certain circumstances, be reflected upon the uterus, so as to give rise to very distressing symptoms.

[In further illustration of the pathology of these affections, the author has made the following analysis of thirty-seven cases, in which the uterus was in a morbidly irritable state, not in consequence of displacement or appreciable disease. In all there was marked pain, and uneasiness in the region of the uterus, which varied in intensity in different instances, and in some had been of long continuance:]

1. Uterine Complications were observed in the following proportions:—
In 3 there was no other uterine disease.
" 15 the pain was complicated with leucorrhœa.
" 7 " " leucorrhœa and dysmenorrhœa.
" 3 " " leucorrhœa and amenorrhœa.
" 1 " " leucorrhœa and menorrhagia.
" 4 " " leucorrhœa and irregular menstruation.
" 4 " " dysmenorrhœa alone.
" 2 " " menorrhagia.
" 1 " " fibrous enlargement of the neck of uterus.

2. Antecedents. The irritable state of the uterus had been preceded:—
In 4 cases, by weakening discharges, such as profuse hemorrhage, and protracted suckling.
" 5 " mental anxiety and distress.
" 8 " mental anxiety, with disorder of the digestive organs.
" 2 " sudden fright.
" 18 " disorder of the digestive organs.

3. Concomitant Affections:—
In 18 there was well-marked anaæmia, with disorder of the stomach and digestive organs.
" 12 " anaæmia, with spinal irritation.
" 3 " spinal irritation.
" 4 " great irritability of stomach and digestive organs.

[The facts contained in the foregoing analysis appear, to the author, to justify the following conclusions:]

First.—That, from the operation of the same causes, various and dissimilar uterine diseases may be occasioned. Thus the principal antecedent circumstances in these cases were, for the most part, the same, and yet very different disorders were the consequence. In some, there was simply a painful condition of the uterus; in others, this co-existed with leucorrhœa, amenorrhœa, dysmenorrhœa, menorrhagia, &c. The probable explanation of this is, that the operation of the different causes in question is primarily upon the nerves of the uterus, and that
irregular actions, in regard to these, precede and give rise to those particular symptoms, which, in the aggregate, constitute disease as known by a given appellation.

Secondly.—That, all these lesions may arise from constitutional disorder, may be perpetuated by it, and in many instances will cease on its removal. In these cases the chief circumstances which had preceded were either of an enervating or depressing nature; such as loss of blood, over-suckling, &c., or mental depression or uneasiness. The obvious effect of these would be to lower the tone of the nervous system generally, and to render it morbidly susceptible to impression. Thus it would happen in regard to the uterine ganglia and nerves, that they would be prone to irregular actions, and to participate readily in the morbid affections and conditions of other organs. If, again, the impressions leading to such abnormal actions are received from or through the medium of the ganglionic system of the nerves, it is reasonable to suppose that the functions to which these are more immediately subservient, such as nutrition and secretion, would be more particularly disturbed, whilst those received from or through the medium of the cerebrospinal system would rather give rise to painful and uneasy feelings; and thus may arise the difference in the uterine derangement, which is consecutive to chylopoietic disorder and spinal irritation.—[London Journal of Medicine.

Some Practical Observations on Pelvic Abscesses. By Fleetwood Churchill, M. D., Fellow of the King and Queen's College of Physicians, Ireland, &c., &c.

The peculiar disease, then, to which I would very briefly call your attention, is that phlegmonoid inflammation, which, by some, is termed pelvic abscess, and by others inflammation and abscess of the uterine appendages, according as the attempt is made to be more or less explicit. Of the nature of the disease, there is no difference of opinion among modern writers; the older ones, indeed, regarded it as a metastasis of the milk, and termed it "milk abscess."

I have no doubt that the attack is much more common than is even yet believed, although the attention of the profession has been latterly a good deal directed to the subject by writers in Dublin, London, Edinburgh and France. Within two months this year, for example, I was called to three such cases.

We find this local inflammation occurring under very different circumstances, some of which we should hardly have anticipated.
1. It may occur, not only unconnected with parturition, but in unmarried persons at different ages, and independent of all the ordinary irritants of these organs. A case occurred in the person of one of the nurses at the Meath Hospital, a single woman, about 50 years of age, and without apparent cause. It exhibited the usual symptoms which I shall notice by and by, and ran the usual course, softening and opening into the rectum, after which the patient recovered.

2. I have seen several cases of the disease in married women who never had had children; in two instances it occurred within a few months of marriage; in both the tumefaction was considerable, but both terminated in resolution.

3. In some few cases, it occurs as a secondary complication of severe uterine irritation, apparently from the use of local irritants, the too frequent employment of the uterine sound, the introduction of the pronged pessary, &c.

4. I have seen the disease follow a smart attack of ephemeral fever several times; in one case it terminated in resolution after several weeks; in another in suppuration and evacuation by the rectum; and a third is at present under treatment.

5. It not unfrequently complicates or terminates an attack of simple hysteritis, of which several examples have come under my notice, terminating most generally in suppuration. One such case was the largest abscess of the kind I have ever seen, occupying about one-fourth of the abdomen; and in another, at present under my care, the tumor acquired the size of an orange, and after remaining stationary for some months, is now nearly resolved.

6. In certain epidemics of puerperal fever, inflammation of the uterine appendages appears as a special variety, with or without a corresponding affection of the uterus.

It is not unlikely that the disease may occur under other circumstances, but these have each and all come under my own observation, and I can therefore vouch for their accuracy.

With regard to the nature of the disease, as I have said, there is no difference of opinion, it is a phlegmonoid inflammation of these parts, but there is a distinction of some practical value as to the locality and the parts affected. In this respect all the cases I have seen may be divided into two classes:—

1. The first and largest exhibits a tumour just above the brim of the pelvis, and closely connected with it, fixed and immovable, extending downwards internally outside the vagina, through the sides of which it can be felt.

2. In the second class the tumour is distinct from the pelvis, rounded, and quite moveable in every direction.

In the latter cases, the inflammation appears limited to the
Pelvic Abscesses.

uterine appendages—*i. e.*, the ovary, broad ligament, and Fallopian tubes. In the former, the soft parts which line the anterior and lateral wall of the pelvis are also involved in addition to the uterine appendages; these are more properly named pelvic abscesses.

I may add, that although either side indifferently may be affected, I think the left side is more frequently the seat of the inflammation.

As to the causes of the disease, it is not easy to be very precise.

1. In certain cases, to which I have alluded, the abscess is undoubtedly the result of mechanical injury, and the cause is quite intelligible.

2. In others, again, there would appear to be a sort of metastasis of inflammation from the uterus, which in these cases occurs towards the termination of the uterine affection.

3. In a third class of cases, especially when the patient is unmarried, it seems more fairly attributable to cold than to any other cause; but what may be the influence which determines the attack to this region, it is quite impossible to say. In one of the cases, to which I have alluded, all the uterine functions had been some time quiescent.

4. Lastly, in puerperal epidemics, when the uterus is involved, we could hardly expect, that its appendages would escape; and accordingly we find that they generally share in the disease, though much more remarkably, in some epidemics than in others. In another place I have given statistics of the comparative frequency.

Now, with regard to the symptoms, I must beg you to bear in mind what I have said as to the two varieties of the local affection; the one involving the soft parts lining a portion of the pelvis, and the other limited to the ovary and its appendages, strictly speaking.

The disease may, and generally does, I think, commence by a febrile attack; but this is not always the case. There may be a rigor, followed by heat, or this may be entirely absent. Sooner or later the patient complains of pain or uneasiness in the lower part of the abdomen; but the amount of suffering varies a good deal, and pretty much in accordance with the amount of fever.

If we examine the abdomen carefully, we shall either find a tumor just above Poupart's ligament, of varying size and thickness, and firmly fixed to the pelvis, or a moveable tumor, rounded, firm, and elastic, lying above the pelvis in the abdomen.

In the former class of cases, a vaginal examination adds
nothing to our information, as the tumour is out of reach; but in the latter, we can trace it extending more or less down into the pelvis, adding a lateral thickness, extremely tender on pressure. Generally speaking, the uterus is pushed a little to one side, is not tender on pressure, but moving it gives pain. In one or two cases I have seen the uterus fixed and nearly immoveable; in one case only have I seen both sides affected. This occurred in a married woman, unconnected with delivery.

In the former class, also, in addition to the pain, tenderness, &c., the movements of the leg of that side are affected; the patient cannot stretch it out straight without great pain, nor can she walk or stand up without bending forward.

In the latter cases the movements of the limb are quite unaffected. This distinction is, I think, of considerable practical value.

The tumour, I have said, varies in size; it is, however, always tender, on pressure, and not less so as the disease advances. When it attains a considerable size or is attended with much irritation, I have seen the bladder and rectum sympathetically affected; the former more frequently so, giving rise to a frequent desire to evacuate their contents. In only one case have I had reason to believe that the tumor offered a mechanical impediment to the passage of the faeces.

These are the principal symptoms present in a simple case of pelvic abscess; but they, as well as the course of the disease, will vary much according to the extent of the local affection, the amount of constitutional disturbance, and, in some degree, according to the circumstance under which the attack has occurred.

1. In some cases I have seen, the affection had a purely local character. There was the tumour tender, firm, moveable, or immoveable; but the pulse was scarcely quickened from beginning to end; the appetite but little affected; the bowels regular, &c. The patient was confined to the sitting or recumbent posture, and suffered pain locally, but that was all.

2. In other cases, the local suffering was very considerable and unceasing; the pulse very quick, at least 120, with sweating at night; utter loss of appetite; irregularity of bowels; no sleep, and great emaciation.

3. Lastly, the cases which occur during an epidemic of puerperal fever will present its general characters in addition to the local symptoms already mentioned.

With more or less of these symptoms, but with the local ones always, the disease runs its course not quickly; often, on the contrary, very slowly, but with an uncertain duration in each case. I do not think I ever saw the tumour disappear or
suppurate in less than a month; and I have known it run on
for three or four, as in two cases at present under my care.
The disease may terminate either by resolution or suppur-
ation.

1. By resolution. I have seen repeated instances of this
termination, both when the tumour is free and when it is at-
tached to the pelvis, though more frequently in the former
than in the latter, and much more frequently in those cases where
there is but little constitutional irritation. In such cases, the
tumour may increase to a certain degree with the symptoms I
have described; it then remains pretty stationary for a time,
often a considerable time, after which it gradually and slowly
subsides. It is worthy of notice, that if the patient be impru-
dent during this process, the morbid action in the tumor may
be re-excited, and the case may terminate in another manner.
In one of my cases the tumour had nearly disappeared when
the lady's servant became suddenly insane, and so frightened
her that the tumor enlarged, and all the symptoms re-appeared.
The time occupied by the process of resolution is generally
considerable. I have two cases under my care at this moment
illustrative of this; in one, the tumour, which was free, has
all but disappeared, after nearly five months; and in the other,
the fixed tumour has considerably diminished after three
months.

2. In the majority of cases, however, the tumour suppurates,
softens, generally perceptibly, and after a process of absorp-
tion of the intervening tissues, terminates by the evacuation
of the purulent matter; this formation of matter being generally,
though not always, marked by the occurrence of rigors. The
channel, through which this takes place, varies a good deal.

1. In some cases it has been evacuated into the peritoneum,
giving rise to peritonitis; but this must, I think, be very rare
—at least, in upwards of twenty cases which have come under
my notice it never occurred. I recollect a case which occurred
to my friend the late Dr. Haughton, which now appears to me
to have been a case of the kind. The poor woman had recov-
ered badly from her confinement, and some time afterwards,
when at the night-chair, she felt something give way, and peri-
tonitis immediately followed.

2. Cases are on record in which the abscess opened into the
bladder. If I mistake not, I saw one recently in one of the
Journals; but such cases I believe to be the most uncommon
of all.

3. The tumour may soften at its lower part, and the matter
may find its way through the coats of the vagina, and be dis-
charged through that canal. I have seen several cases of this
termination, the results of which have been very favourable. It has been suggested that we should puncture the tumour in this situation, when the situation of the softening is suitable; nor do I see any objection to the plan. I have, however, not found it necessary.

4. The most common situation, certainly, for a spontaneous opening, is into the rectum, and then the matter will be found discharged along with the stools. On this account, when the tumour is observed to become softer, and we have reason to suspect that matter is formed, the alvine evacuations should be carefully examined. Except when the matter escapes into the peritoneum, no degree of pain seems to accompany its evacuation. It often passes unobserved by the patient, and sometimes seems marked by a sense of relief in the tumour.

5. In a considerable proportion of cases, the tumour approaches the surface gradually, and engages the integuments, which become tense, fixed, and sometimes red and shining. The fluctuation can be felt, the intervening integument is absorbed, and the matter points, as it is called.

The extent of these abscesses superficially, is generally not much beyond the size of the tumour at an earlier period, but in some cases I have seen them very large; in one case, scarcely less than one-fourth of the abdomen seemed involved. I do not think it would be wise to wait for such an extent of disease, but we ought to open it at an earlier period, and thereby save the patient much suffering.

The symptom which most surely indicates this mode of termination, or rather this locality, is the skin becoming fixed over the tumour, not rolling freely, but being adherent to it.

Diagnosis.—There can hardly be any difficulty in the diagnosis of pelvic abscesses which occur after delivery, and as part of a mere general puerperal affection; the attention being directed to the uterine system, a careful local examination will detect the tumefaction, whether it be fixed or not. If it be situated deep in the pelvis, and scarcely appearing above the brim, still the pain down the leg, and the difficulty of extending the limb, will leave but little doubt.

Perhaps an equally careful examination might be equally successful in the unimpregnated condition; but as the disease is not generally expected under such circumstances, a less minute investigation may, and often does, lead to a false conclusion. I have myself known a case of pelvic abscess pronounced to be a fibrous tumour by very competent authority.

Now, the pathognomonic symptoms are, the pain in the tumour and down the leg, the impossibility of standing quite upright, or extending the leg completely, and the tumour detected on external and internal examination.
1. From fibrous tumours it is distinguished by its comparatively quick growth, the amount of uneasiness, and the termination. The former increase very slowly, and insensibly give rise to few or no symptoms, and, above all, are not common in the uterine appendages.

2. In women of a certain age, the filling up more or less of the pelvic cavity, might be supposed to result from cancerous disposition; but here we have no general cancerous diathesis, the uterus is always unaffected, and the occurrence of suppuration or resolution solves the difficulty.

3. That one variety of abscess which is unconfined resembles much ordinary ovarian enlargements, at first sight, but it differs in this, at least according to my experience, that it never occurs except in connexion with childbirth or miscarriage; and, as a general rule, the growth is much more rapid in the cases under consideration.

The affection, then, may be considered as well marked, and, with care, not difficult of appreciation, but requiring special care and attention when it occurs independent of parturition.

Prognosis.—For so serious an attack, involving such important organs, and liable to such various terminations, the prognosis is very favourable. I have seen more than twenty such cases, and have never seen one in which any unpleasant result occurred. Some fatal cases are on record, but they must be very rare, and probably in consequence of secondary peritonitis.

The disease is, however, very tedious, and may reduce the patient considerably, so that there may be some risk of the incursion of other diseases, if the patient be predisposed thereto.

Treatment.—Whether the attack come on after delivery or independent of it, if we see the patient during the acute stage, it will be necessary to apply leeches over the tumour, to repeat these, if required, in numbers according to the amount of irritation and the patient’s strength and to follow them by constant poulticing.

The bowels should be kept quite free, and I have found benefit from small and repeated doses of calomel or blue pill, but not continued so long as to affect the gums.

The diet of the patient during this period must be low, and I need hardly say that she must be confined to bed.

After we have somewhat subdued the acute inflammation, we must still continue the poultices until suppuration is established; but if the pulse be quiet, we may allow a little better diet, such as chicken-broth or beef-tea.

When we are satisfied that suppuration has taken place, that matter is formed, then our anxiety is as to the place where it is to be evacuated. If by the bladder or intestine, we can do
nothing but continue the poultices; but if, on a vaginal examination, we find the tumour soft and the intervening parietes thin, we are advised to make a puncture with a bistoury into the tumour, first ascertaining the presence of pus by an exploring needle. If we succeed, the after-treatment is simple; so long as purulent matter escapes, the poultice may be continued, and occasional pressure made upon the tumour, so as to empty it as much as possible.

But if the tumour enlarges above Poupart's ligament, involves the skin, and becomes soft, with a sense of fluctuation, it must be opened freely in this situation: and it will save the patient some suffering if we make an incision reasonably early. Sometimes a large amount of matter is discharged with great relief, sometimes only a small quantity, but the discharge will continue so long as suppuration goes on. When it ceases, the poultices may be omitted, and some dressing substituted if the wound remains open.

When once the abscess is opened, we may allow the patient a more generous diet, with wine, &c., and in many cases bark may be given with benefit.

But if the tumour shows a disposition to resolve itself, it will be advisable by degrees to leave off the poultices, and substitute cotton wool or flannel. In some cases, this process is hastened by a small blister applied occasionally, or by painting the part with strong tincture of iodine, and I have seen great benefit and improvement result from warm hip-baths twice or thrice a week.

Such, Mr. President, is the imperfect sketch I have ventured to lay before you. No one can be more sensible than I, that it needs an apology, and I trust it will be found in the fact, that it has been written in the midst of great anxiety and hurry, without time to refer to books, and from an earnest desire to show my willingness to co-operate with you in your noble efforts to advance the science of medicine and surgery.

[Dublin Med. Press.

On Epithelial Cancer. By G. Murray Humphry, Esq., Surgeon to Addenbrooke's Hospital.

[We extract the subjoined remarks from a Course of Lectures delivered in the Medical School of Cambridge, and to which we have before been indebted for contributions. The author divides cancer into four varieties:—1. Epithelial cancer. 2. Schirrous and encephaloid. 3. Melanic cancer. 4. Alveolar or gelatiniform cancer. The first only is here spoken of.]
The epithelial cancer affects usually the skin or a mucous surface in the first instance. It differs from the other forms of cancer in being composed almost entirely of cells more or less flattened out, and closely resembling those of ordinary epithelium; it does not present the malignant qualities in so marked a degree; it is more tardy in its progress, sometimes remaining for months or years in a quiescent state, or growing very slowly; it generally appears at some part of the skin or mucous membrane which has been exposed to a long-continued irritation, and its ravages are confined to the vicinity of that spot and to the adjacent absorbent glands; that is to say, it does not often make its appearance in any other organ, being, in a greater measure than the other forms of cancer, a local affection, less associated with any particular diathesis, and much less likely to return after extirpation.

For these reasons some pathologists are inclined to exclude the epithelial species from the family of cancer; mistaking, as it appears to me, differences in degree for differences in kind, inasmuch as the epithelial disease does really present all the leading features of cancer, though it may do so in a less decided and less active manner than the other members of the class. It is attended with the destruction of the original tissues whenever it occurs; it possesses the quality of spreading from point to point, assimilating the adjacent tissues of every kind and in every direction, and reducing them all to one homogeneous structure; it affects the neighboring absorbent glands, converting them also into a substance like the parent mass; and it is prone to decay and ulceration; moreover, it is unceasingly destructive; it yields to no treatment, and pursues its relentless course till death puts a stop to its ravages.

Watch the progress of the disease when it affects the lip, by far its most frequent seat. It usually begins on the edge of the lower lip, a little to one side of the middle line, probably at the spot where the pipe is habitually rested. I have seen it in the middle of the lip, originating in one of those cracks which are often so troublesome in that situation, and in two or three cases have met with it in the upper lip; in one of the latter it originated in the cicatrix of a wound inflicted several years previously. A slight thickening or wart-like elevation of the skin is generally the first symptom; the cuticle is also thickened at the part, and, in course of time, becomes rubbed or scratched off, leaving the surface a little abraded or cracked, or superficially ulcerated. Upon this a succession of scabs are formed and detached, while an increasing lump is produced underneath them, and the ulceration proceeds deeper; so that in the course of time a considerable ulcer is engendered with an in-
Epithelial Cancer.

[May, 302

durated basis, an excavated, or deeply fissured, or warty surface covered with white dirty secretion, or perhaps with pale firm granulations, and having a sinuous, raised, everted margin. The discharge from these ulcers is thin and pale, like serum; occasionally it is mixed with blood. They are not painful or tender, and the patients often think little of them. However they gradually increase, extending along the margin of the lip and towards the chin, the thickening and induration preceding, the ulceration following, till the whole lip and part of the cheek may be involved in the disease. Before such extensive ravages have been effected, the absorbent glands under the jaw are generally found to be enlarged and hard, the skin over them becomes adherent and inflamed, and ultimately giving way, an ulcer is formed which extends deeply, presents the usual cancerous aspect, and leads to the like fatal termination. If a section be made through the ulcer in the lip, even in an early stage, its indurated basis is found to consist of a compact, opaque white, pearly substance, of uniform appearance, or speckled, it may be, with small yellowish spots, which are softer than the rest of the mass, and which are generally situated in greatest numbers near the ulcerated surface. In this substance all the natural tissues of the lip are blended and lost. Not only are the skin, the mucous membrane, and the labial glands transformed, or assimilated by the new structure, but the muscular fibres of the orbicularis as well as the areolar and fibrous tissues are traceable into the mass and are lost in it. When examined under the microscope, the new substance is found to be composed almost entirely of flattened cells, like those of epithelium, compressed together, and arranged in lamæ superimposed upon one another. Some of those which are newly formed or which are swollen by the imbibition of moisture, are round, oval, or fusiform, and present nearly the characters of the ordinary cancer cell. It is an interesting fact, first announced, I believe, by Mr. Paget, that the microscopical characters of the diseased absorbent glands correspond with those of the primary disease in the skin; the glands, like the tissues of the lip, being converted into masses of flattened and closely compressed scales, intermixed with cells in various stages of transformation. This fact, taken in conjunction with the acknowledged success that attends the removal of epithelial cancer of the skin, makes us somewhat bold to extend our incisions for the purpose of exirpating also the morbidly affected glands.

The disease is most commonly seen in elderly men, though middle aged and younger men are sometimes affected by it. The patient’s health generally appears to be good till it becomes impaired by the distress, discharge, and inability to
masticate, occasioned by the extensive destruction of parts about the mouth. A complete and permanent cure in most instances follows the entire removal of the mass by the knife, which should be done at an early period; before the absorbent glands are involved, if possible, because they are sure to enlarge and lead to the results just described when they have begun to participate in the disease. Occasionally we find this to be the case after the operation, although there was at the time no evidence of their being in a morbid condition. In three or four cases, after the removal of the mass from the lip, and when the cicatrix remained perfectly sound, I have known the disease spring up in the periosteum, make its way through the jaw, and destroy the patient. Even the complete excision of the portion of the jaw thus involved does not always save the patient.

In the cancer of the penis and of the scrotum the progress of the disease is very much the same as in the lip; the ulcer originated in a pimple, a wart, or a little thickening of the skin, has the same foul or coarsely granulating surface, everted edge, and indurated base, goes on increasing with equal or even greater virulence, involves the inguinal glands, and destroys the patient in a shorter space of time than the corresponding affection of the lip. I have seen the disease at the anus, on the anus, on the extremities, the trunk, the face, and head, and believe it may attack the integuments at any part of the body. It presents very much the same characters, and runs the same course in whatever situation it occurs; exhibiting the qualities of malignancy in a sufficiently marked manner, quite as strongly, indeed, as we could expect, considering that it is very generally the result of some local irritation.

Nevertheless, it must be admitted, and this is one of the most interesting features in their pathology, that these cutaneous growths vary a good deal in their malignancy;—so much as to constitute, it would seem, a very instructive link between simple hypertrophy and genuine cancer—between an ordinary wart and well-marked scirrhous, proving that these diseases must be studied in their relation to one another no less than in their points of difference, if we would attain a correct idea of their real nature. There is good reason to think that the neglect of this mode of considering the subject, together with the too great stress which is usually laid upon the distinctive features of cancer, has been the source of many narrow views, if not of much misconception, upon this very important class of disease. Any information upon this subject which the cutaneous growths may afford, is peculiarly valuable, because they are directly under our observation; and if there be any rela-
tion between simple and malignant disease, we may expect to find some evidence of it in them.

Now, there are numerous instances of warts occurring upon the skin in elderly persons, respecting which we have a difficulty in deciding whether they be cancerous or not, and which we are in the habit of extirpating, because we know that if they are allowed to remain they will go on increasing, will in the long run ulcerate, affect the adjacent glands, and terminate fatally. For example, a healthy man, æt. 63, was in John's ward, a year ago, with a broad, flat, warty growth on the right temple; it overhung the surrounding integuments, which was purplish and a little pimply. The surface of the growth was covered by a soft, white secretion, and when this was washed away it was seen to be granular and warty, with superficial ulceration at places. There was no induration about its base, and no enlargement of the adjacent absorbent glands. It had commenced a year and a half previously. About the nose was several small pimply or warty elevations of the cutis, which he said had existed for a longer time than that on the temple, though the latter at its commencement resembled one of them. I removed the growth, completely dissecting it away from the temporal fascia, to which it was loosely connected by cellular tissue. After the wound had healed, there was a return of the disease at one spot in the edge of the cicatrix, requiring a second operation, which left him quite well. A short time ago the part was sound, and the warts on the nose remained unaltered. A section of the mass showed it to be composed of pale, blunt, thick fibres, parallel to one another, and at right angles to the surface of the body, doubtless enlarged and elongated papillae, together with epithelial sheaths of papille. This appearance is often seen in cases of the like kind, and is probably the result of a change analogous to that which causes the thickened striated condition of the intestinal muscular coat accompanying cancer of the bowel. The association of an actively increasing warty growth with a number of others of similar appearance which remain in a quiescent state is very common. I remember a chimney-sweep, the subject of cancerous ulcer of the scrotum, whose skin was covered in many parts of the body with little warty elevations, attributed by him to the same cause as the more malignant disease in the scrotum, viz., the irritation of the soot. They were in a quiescent state, and hardly attracted attention.

[The author here narrates two cases of warty growths, both of which ultimately caused death. He then proceeds as follows:]

These warty growths, which exhibit the stubbornness, and
are apt to assume the destructiveness of malignant disease, are almost always met with in elderly persons. It is the best plan to extirpate them at once, where that can be done, and not to waste time in the anticipation of caustic and other remedies, which are more likely to excite than to repress the growth, and which often hasten the enlargement of the absorbent glands. I remember regretting that I had treated with nitrate of silver a warty growth of this kind on the labium, in a woman, æt. 60; for though the growth was without induration, presenting the appearance of a simple affection, and was diminished in size for a time, yet it subsequently advanced more rapidly, the inguinal glands participated in the disease, ulceration took place, and proceeded as in ordinary cancer, and the patient died.

Perhaps it may be stated, as a general rule in these and in other affections of a similar kind, that the degree in which the natural structure of the part is altered, will be found to be proportionate to the malignancy of the disease. Thus, where the change consists simply in an outgrowth of the papillae, with a thickening of their epithelial coats, after the manner of the wart, there the mass is slow in its increase, slow to extend to the stratum of tissue under the skin, slow to ulcerate, slow to make any impression upon the absorbent glands, and may be removed with great prospect of a complete cure. Secondly, where the warty disposition is less manifest, the alteration of structure being attended rather with a destruction of the papillae than their hypertrophy, and with the substitution of flattened cells, like those of epithelium, for the natural tissue of the cutis; there the malignant qualities are more evidently displayed, the mass increases more quickly, extending beneath the skin, involving the subcutaneous areolar tissue, muscular fibres, and even the bones; it ulcerates at an earlier period, the absorbent glands are more quickly affected, and we are not quite so free from apprehension of a return after removal. Still the disease is generally local, unattended with any constitutional indisposition, and is not likely to appear in distant parts. In the third class of cases, which comprises the scirrhous or encephaloid cancer of the skin, the morbid elements have still less relation to those naturally existing, the tissues are replaced, not by epithelial, but by cancer cells, or nuclei—that is to say, the new products do not exhibit a tendency to liken themselves to any one of the components of the skin, but assume the form, and are endowed with the endogenous productive qualities of cancer-cells; they breed others in their interior, instead of being themselves transformed into any kind of tissue. In these cases the disease commences, not with a wart, but with a tubercle, spreads quickly in all directions, ulcerates, attacks the absorb-
ent glands, and is commonly associated, either as a primary or secondary affection, with cancer of some other organ; its removal, therefore, is attended with comparatively little hope of a permanent cure.

The warty growths described by Mr. Cæsar Hawkins and others as cicatrices, more particularly in the cicatrices of burns, partake, I suppose, in a greater or less degree, of the nature of epithelial cancer, being, for the most part, intractable by ordinary means, and requiring extirpation for their cure. I have not happened to meet with any cases of this kind.

Epithelial cancer attacks mucous surfaces, no less than the skin; sometimes commencing under the tongue, about the orifices of the salivary ducts, in the form of an indurated elevation of the membrane; it extends upon the jaw, and the under surface of the tongue, as in the case of the woman from whom I lately removed the mental portion of the jaw, the anterior and under surface of the tongue, and the parts intervening between the two. The patient recovered, and has not at present (six months after the operation) suffered any relapse. In another woman the disease, commencing at the same spot, had involved the submental and submaxillary absorbent glands to too great an extent to admit of extirpation, and proved fatal within two years from its commencement. More commonly it attacks the tongue, beginning on one side, opposite the molar teeth, with a little thickening and induration of the part; the papillae being sometimes prominent, so as to give a warty appearance, ulceration soon follows, and extends into the substance of the organ. The pain or inconvenience attendant on the early stage of the disease not being great, we frequently do not see the patient till an excavated ulcer of considerable size has been formed, with a raised indurated base which extends probably to the side of the fauces, and involves the mucous membrane between the tongue and the jaw. The ulcer has a foul, grayish surface; and the induration is caused, as in other cases of the like kind, by the infiltration of a new product in the structure of the organ, and its substitution for the natural tissue. Examined microscopically, this new product is found to consist of epithelial cells, compressed and matted together, perhaps concentrically arranged, or elongated, and showing some tendency to split into fibres. In the further progress of the disease the palate and lower jaw, and submaxillary glands become involved, the movements of the tongue and jaw are impeded, deglutition is difficult, the flow of saliva increased, the breath fetid, and the patient's condition is altogether very miserable during the short period of life which remains.

On the whole, there can be no doubt that, although it often
is excited by a local source of irritation, such as a decayed tooth or stump, the epithelial cancer of the mucous membrane of the tongue and mouth, is far more actively malignant in its progress than when it affects the skin. Indeed, I think it exhibits in this situation as rapid and as determined destructiveness, with, perhaps, as great disposition to return after extirpation, as do the scirrhous and encephaloid cancers in other parts of the body; though it is not so likely to affect distant organs. Our hopes, therefore, of ultimate success from operative interference, are far less than in the treatment of the corresponding affection of the skin. Nevertheless, we may give the patient the benefit of the chance, when there is a fair probability of our being able to remove the entire mass.—[Provincial Med. and Surg. Journal.

On Hysterical Affections of the Hip-joint. By Mr. Coulson.

Mr. Coulson gives the following diagnostic signs of nervous, as contradistinguished from organic, disease of the hip-joint:—

In the nervous affection pain is felt from the commencement in the hip, and extends to the loins and down the thigh. There is great nervous excitability and extreme sensitiveness in the part; and the patient, from the first, is unable to walk. Combined with this extreme suffering, the trochanter major retains its proper bearing to the spine of the ilium. There is not the characteristic wasting of the glutei muscles, and, consequently, no flattened appearance of the nates. Pressure in these situations, when the bone approaches the surface, does not excite greater pain than elsewhere. There are no involuntary startings during sleep. On the contrary, the patient sleeps calmly through the night. In true hip disease the reverse is the case, the sleep, if unaided by opium, is broken by sudden shooting pains and frightful dreams, or vague anticipations of coming pain.

Of the pathology of the disease Mr. Coulson admits that little is known. The joint is healthy in structure. He asks whether the spine is not in a morbidly excited state, and responds truly, or whether the brain is not itself perverted as to its functions, and the pain is not a delusion? His own opinion inclines the other way, and he looks to the sensorium as the organ chiefly affected.

With regard to the treatment, he remarks, that if it be mistaken for organic disease, the line of practice adopted on that supposition will be positively injurious. The patient must be persuaded to leave her couch, and to take air. The diet must
be plain and nutritious. Among medicines, he prefers the vegetable tonics and antispasmodics—as valerian. Copland has found most benefit from turpentine internally by enema, but he also associates various tonics and local sedatives.—[London Journal of Medicine.


Mr. Holmes Coote makes the following observations on the difficulties attending the diagnosis of this affection:—There are but few surgeons who have not experienced occasional difficulty in forming an accurate opinion as to the character of the morbid changes which occur during life in chronic disease of the hip-joint. In the early stages there is frequently but little pain, and children so affected, especially amongst the poorer classes, are permitted to walk about and pursue their daily avocations, without notice being taken of their lameness, until at last a fall or some other accident excites more acute symptoms, and induces the parent to seek professional assistance. The surgeon finds the pelvis oblique; the affected limb apparently elongated, and slightly everted; he finds that in bending the thigh upon the trunk, the whole pelvis moves with the femur; pressure over the hip-joint excites, perhaps, little pain; there is flattening of the buttock, and the trochanter major appears more sunken than natural. The history accompanying such a case is often as follows:—The child was in perfect health, and able to run about until about a week or two ago, when, in consequence of an accident, it was thrown down upon the side. Upon being taken up, it was found to be lame and has been unable to walk ever since. The history of the case, and the position of the limb, might lead to the belief that the head of the bone was dislocated upon the thyroid foramen, especially amongst those who consider that inversion and not eversion of the foot, is the position assumed by the inferior extremity in the earlier stages of hip-disease. I propose offering a few remarks upon the position of the limb, granting that, as is commonly asserted, there may be inversion and not eversion; that there may exist a resemblance to dislocation on the dorsum illi, or to dislocation on the thyroid foramen; but denying that such varieties can ever be referred to accident.

In the commencement of an inflammatory affection of the hip-joint, the thigh is bent upon the body; the whole limb is slightly everted and abducted; the anterior superior spinous process of the ilium of the affected side is either raised, when
the limb appears to be shortened, and the sound hip more sunken than the opposite, or it is depressed or thrown forwards, when the whole limb appears elongated, the knee being bent, and the toes touching the ground a short distance in front of the toes of the sound limb.

The elevation or the depression of the anterior superior spinous process of the ilium of the affected side depends upon whether the patient happens to have been forced to follow his occupation during the early stages of the disease, or whether he has been in circumstances which allowed him to rest when in pain or uneasiness. The spine of the ilium is generally sunk and thrown forwards, and the limb apparently elongated; that position being the one in which the diseased joint will be easiest, the patient standing upright. But if he be forced to walk about, the pelvis becomes oblique in the opposite direction, the spine of the ilium is raised, and the limb is apparently shortened. The patient, throwing as much as possible of the weight of the body upon the sound side, limps upon the extremities of the toes of the affected limb, the foot being extended that its tip may just touch the ground.

The flexion, eversion, and abduction of the limb constitute the position into which it would be naturally thrown by the combined action of the powerful muscles which surround the hip-joint. The synovial membrane is inflamed and tender, and unfit to bear pressure; the patient, therefore, instinctively endeavors to relax every muscle directly in contact with the joint. The psoas and iliacum, passing over the front of the synovial membrane and tightly pressing upon it where the limb is extended, flex and exert the thigh, the gluteus minimus will contribute to flex it; the pyriformis will abduct the limb; the gemelli and the two obturators, especially the obturator externus, will exert the limb; it is unscientific to refer the position of the limb to effusion of fluid into the synovial membrane; it is but rarely that we find the joint so distended, especially at the commencement of the disease, when eversion is the common symptom. It may be true, that if the joint be tightly distended by the artificial injection of fluid after death, the limb will assume the position above described. The attachments of the capsular ligament are in harmony with the sphere of action of the muscles which surround the joint. That the muscles which exert the limb may act with greater freedom, the fibrous capsule is unconnected with the posterior part of the neck of the femur; it forms there a ring not very unlike that which surrounds the head of the radius in the forearm. After a sudden fall, or a blow on the hip, the limb becomes at once everted,
if the joint is bruised, long before sufficient time has passed for the capsule to become distended by fluid.

In course of time, as has been proved by innumerable post-mortem examinations, the disease produces thickening of the synovial membrane, absorption of the articular cartilage, and ulceration both of the head of the femur and of the acetabulum; the shortened neck of the femur slipping upwards and backwards in the enlarged acetabulum, approximates the fixed points of insertion of all those muscles which have everted the limb. They waste and become atrophied, being no longer in action, and the buttock appears much flatter than on the sound side. The gluteus medius and the adductor muscles then influence the position of the limb, their power being increased by the absorption of the neck of the femur. We may therefore say that, in the second stage of the disease, the limb passes from abduction to adduction; from eversion to inversion. Still flexed it is drawn across the sound thigh, the toe pointing downwards, when the position somewhat resembles that of a limb in dislocation upon the dorsum ili. — [Medical Times.

On the Presence of Sugar in Pus. By George D. Gibb, M. D., L. R. C. S. I., Lecturer on the Institutes of Medicine, St. Lawrence School of Medicine of Montreal. Physician to the Montreal Dispensary.

In January, 1850, I opened a large abscess situated on the back below the right scapula, in a female aged 23, the subject of general external scrofula. The fluid withdrawn, was of a yellowish colour, spec : gr: 1028; inodorous, neutral, and of a creamy consistence. In the course of a chemical examination, I applied the different reagents for testing the presence of sugar; when, to my surprise, I found that Moore's test, and Trommer's tests gave positive proof of the presence of a considerable quantity of that substance. Microscopical observation showed the usual characters of tuberculous matter, in the presence of cells filled with granular matter, free granules and fat globules, together with pus and lymph corpuscles. In February, this large abscess having become again filled, was opened, and exit given to a thick cream-like fluid of a dark drab colour. On examination for sugar, the results were again positive, and the microscope showed a larger number of pus corpuscles.

These experiments were not sufficient in themselves to prove that pus necessarily contained sugar; and to test the subject further, other kinds of pus were examined with the following results: —

Pus from Chronic fistula in left breast of a female in which
Cyanuret of iron was found. (This case was published in the 6th volume of the *British American Medical and Physical Journal.*) Moore's and Trommer's tests, quite satisfactory. Pus from sac of an abscess over the *right malar bone* in a girl, very foetid: all the tests satisfactory.

*Crude and softened Tubercles* from left lung of a Phthisical patient, aged 40. Tests satisfactory, but sugar not large in quantity.

*Fatty liver*, same case, that variety described by Louis; sugar found in *large* quantity by the usual tests.

Pus from a *Bubo*. Tests satisfactory.

Large *Mammary Abscess*. Healthy laudible pus, sugar in small quantity, by Moore's and Trommer's tests.

These results conclusively prove, that sugar is one of the normal constituents (so to speak) of pus, and it is to its presence that the sweetish taste is due.

Dr. Mason Good, in the second volume of his *Study of Medicine*, in describing pus, says "It has a sweetish, mawkish taste (apparently from its containing sugar,) very different from that of most other secretions."

He appears to have been the first author who has supposed its presence in this fluid. Its presence may possibly be due to the albumen found in pus, which, according to Dr. Wright, *contains* 58 to 83 per cent. It has been shown elsewhere, that sugar exists largely in the serum of the blood, † which contains albumen principally, and also in the albumen of eggs. ‡ Pus also contains fatty matters which may likewise account for its presence. In fact, the presence of either fat or albumen, both being proximate principles, is a sufficient proof of its elaboration from the body.

That fat may have some influence in the transformation, is supported by the evidence afforded in the amount of sugar contained in the fatty liver examined, which was very large. And in some experiments performed on the livers of Birds, (which will be described in a future number of this Journal) the amount of sugar was found to be large in those containing much fat, as, for example, in the liver of the goose.—[Canada Med. Jour.

**Cases of Delirium Tremens successfully treated by the administration of Chloroform.** By Stephen H. Pratt, M. D., of Baltimore.

**Case I.** May 7th, 1850, I called to see E. B., laboring under delirium tremens.

* Ranking's Abstract; vol. 1, 1845. † Bernárd in *Archives Générales*, 1848.
‡ Gazette Medicale, 1849.
E. B. had, that day, been taken from the Infirmary, where he had been for the last seven days under judicious treatment for the above named disease. During the time (seven days) he had not slept any, as I had been, that morning, informed by the resident physician; and his case was deemed almost hopeless. His friends became alarmed, and (very injudiciously, I thought) removed him, and placed him under my care.

It was 1 o'clock, P. M., when I saw him. He was very feeble, and much exhausted by disease and protracted wakefulness. His pulse was feeble and frequent. There was subsultus, muttering, great incoherence, with cold and clammy extremities.

Having been advised that he had been on a mixed opiate and stimulant treatment, at least a part of the time, and having had some success previously in the use of chloroform, I determined to use it now. Accordingly one drachm of chloroform, diluted with water, was exhibited. At 5 o'clock, P. M., another drachm was administered; and at 9 still another, diluted as before. At 10, he fell asleep and slept till morning. At 8, in the morning, he waked and drank some gruel, after which he soon fell asleep and slept till noon.

He now waked with a good appetite, which he too freely indulged by partaking of soup. However, he was quite comfortable during the afternoon, and slept well through the night. Next morning he vomited two or three times freely. The emesis was not violent, and was easily controlled. From this time, paying strict attention to his diet, he rapidly convalesced.

During this sickness no medicine was exhibited but chloroform (not even aperients), and this but three times. On the fifth day, the patient left the house to attend to his affairs, and was soon in health.

Case II. Was called to see J. H., June 4th, 1851, laboring under delirium tremens. Put him upon a mixed opiate and stimulant treatment through the day, and exhibited opium in full doses through the night. This was continued two days and nights, without benefit. Indeed the patient grew worse. The third morning I put him upon: B. Spts. sulph. aetheris. comp., tinctorial valeriane, ana 5 iss.; to take 5 ii. every two or three hours, intermediately giving tinct. opii. At 8 P. M., gave a large opiate. At 10 P. M., gave tinct. opii. 3 j. At 12, repeated the dose; and at 2, again repeated it. All this time the patient grew worse, and became "furiously delirious," frightening all the household.

Three men were appointed to prevent him from jumping out of the windows (several attemps at which he had made), or otherwise injuring himself. At times he was a match for them all. At length he grew weak, becoming more and more pros-
trated by his great exertions. The family became alarmed, and wished further advice. A consulting physician was called in. A hot stimulating pediluvium and an opio tartar emetic treatment was agreed upon.

I suggested chloroform internally, which was not wholly objected to, though not preferred by the consulting physician. Accordingly the former was tried, but unfortunately without success, the patient rapidly growing worse.

He was now beyond control, a raving maniac, a terror to all present. His pulse was feeble and frequent; so frequent it could not be counted with the existing tremor. His tongue was dry; there was also muttering, subsultus, and perfect incoherence, with cold and clammy extremities.

Under these circumstances, I determined to exhibit chloroform as a dernier resort. A tea-spoonful nearly, diluted with water, was administered. After one hour, the following was given: R. Spts. sulph. ætheris comp. tinct. valeriana, aa f5i., chloroform f5i., at a draught.

(The compound spirit of sulphuric ether and tinct. valerian were added in order to obviate, if possible, the danger of fatal prostration.) Fifteen minutes after its exhibition, the patient fell asleep, and slept soundly three and a half hours. Mean- time, perspiration ceased; his extremities became warm; his pulse grew calmer, fuller and firmer. He then awoke much refreshed and quite rational, and had a free, natural dejection.

Three tea-spoonful of the mixture, R. Hoff.'s anodyn. and tinct. valeriana, with half a tea-spoonful of chloroform, were then exhibited. After this, he washed his hands and face, and bathed himself generally. In one hour, I exhibited f3iv. of the mixture, with f5i. of chloroform, and persuaded him to lie down. In a few minutes he was asleep, and slept comparatively soundly four hours, when he arose, went down stairs, and evacuated his bowels. In fifteen minutes he was again asleep, and slept three hours, when he walked and drank a tumbler of milk, took a dose of spts. sulph. ætheris comp. and tinct. valeriana; fifteen minutes afterwards he was asleep again, and continued sleeping through the night, rising, meantime, but once.

In the morning he rose, drank some milk and beef tea, and after evacuating his bowels again went to sleep. His pulse was now good; extremities warm, glowing; subsultus greatly diminished; delirium almost entirely wanting. He slept till about noon, and then waked still more tranquil. During the afternoon, he slept and waked alternately, and rested well the following night. His sleep was not comatose. When awake, he was wide awake, cheerful and lively. A day or two passed
thus as he rapidly convalesced. On the 9th, he was walking about the city a comparatively well man. He has continued well since.

Such are the facts. From a furious delirium, with subsultus, perfect incoherence, cold, clammy extremities, a feeble, fluttering, frequent pulse, costiveness, &c., by the tranquilizing and peculiar (shall I say specific?) influence of chloroform, he was rescued, in a little more than an hour, and thrown into a condition the most favorable possible; from which in a few days, he was restored to his usual health. No emesis, or irritation of the bowels, occurred. No cathartics were exhibited, yet gentle motions followed the administration of chloroform.

The methodus medendi of this wonderful agent, I will not here attempt to explain. Facts are of more importance than inferences, and if, by this contribution, I add one to the facts already recorded, I shall be satisfied.—[Amer. Jour. of Med. Science.

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The Skin as a Diagnostic of the General Health. By Mr. Hunt.

The author commenced by observing that the subject naturally divided itself into two parts, viz:—1. The indications presented by the healthy skin. 2. Those presented by the skin in a state of disease.

Having alluded cursorily to the former, by pointing out some of the indications presented by changes in the condition of the skin as to smoothness or roughness, moisture or dryness, temperature and color. Mr. Hunt proceeded to discuss the constitutional indications presented by the diseased skin, confining his remarks to a single topic, viz: the rapidity or slowness of development, which characterized respectively the various orders of cutaneous diseases, as arranged by Dr. Willan. To explain this point more fully and forcibly, he placed the first seven orders of Willan in a new rotation, selecting two diseases as types of each order, by way of illustrating the subject, as follows:—

Orders:  
1. Exanthemata  
2. Bullæ  
3. Vesiculæ  
4. Pustulæ  

Types:  

- Urticaria.  
- Erythema.  
- Erysipelas.  
- Pompholyx.  
- Eczema.  
- Herpes.  
- Ecthyma.  
- Impetigo.
The first three of these orders, viz: Exanthemata, Bullæ, and Vesiculae, were described as comprising for the most part diseases of rapid evolution or development: the last three, viz: Papulæ, Squammae, and Tuberculae, as containing diseases of slow development; the order Pustulæ taking an intermediate position in this respect. On this basis the author proposed to establish a theory, for the support of which he produced many curious facts relating to the artificial production of the various forms of skin disease, as well as facts connected with the development of spontaneous eruptions.

The theory consisted in regarding eruptions as defensive efforts of nature, tending either to prevent the absorption of poisons, or to eliminate them when absorbed; those poisons or injurious agents which are most actively mischievous, being most rapidly eliminated or repelled: exciting the blush, (Exanthema,) the blister, (Bulla,) or the vesicle, (Vesicula;) those which are less rapidly destructive, exerting a slow and feeble effort at elimination, as observable in the pimple, (Papula) the scales, (Squamma,) or the tubercle (Tuberculum;) while those poisons which are of intermediate intensity of action originate the pustular form of eruption.

Taking seven diseases as so many types of these orders respectively, the author observed that their average duration when unchecked by treatment was strikingly illustrative of the truth of this theory of development. Thus—

Urticaria continues usually a few hours only.
Erysipelas - - a few days.
Herpes - - twice as long.
Ecthyma - - a few weeks.
Lichen - - as many months.
Lepra - - as many years.
Lupus - - for the whole life.

Each eruption showing the relative degree of intolerance of the poison manifested by the system, and thus becoming a signal of danger. Mr. Hunt contended that if this theory prove to be true, it might throw some light on the prognosis, the pathology, and the therapeutics of cutaneous disease; assisting the prognosis by determining how long the disease might be expected to last; the pathology, by pointing out the sudden cause of the disease, and its relative activity or destructive power; the
therapeutics, by suggesting long perseverance in one judicious plan of treatment in the diseases at the bottom of the list, and by indicating some error of treatment when the cure of those at the opposite end of the chain does not proceed at a rate corresponding with their natural rapidity of development.

These positions were illustrated by allusions to the action of external agents in the production of various eruptions, as well as to internal sources of cutaneous disease; and among other important facts it was stated that, while the diseases included in the first four or five orders were producible by external agents, with a readiness diminishing from above downwards, it was impossible to establish the eruptions at the bottom of the list, (Lupus, Acne, Lepra, Psoriasis, &c.,) by any external application whatever.—[London Medical Gazette.

*Application of the Nitrate of Silver to the Pharynx and Larynx in Hooping Cough.* By Dr. E. Watson.

I think that one great cause of the want of success hitherto experienced in the treatment of hooping-cough, has resulted from the prevalence of unsound ideas regarding its seat. It is very generally treated with emetics and expectorants, with embrocations over the chest, or perhaps with leeches, as if it were some inflammatory *pectoral* affection. No wonder that with such treatment the disease generally runs its course, and either wears out itself or the patient.

I think a much more correct theory of the disease is, that it is the product of a poison which exerts its first influence on the mucous lining of the pharynx and larynx, and on the sentient nerves—viz: branches of the superior laryngeal supplying these parts; that in the next place the inferior laryngeal becomes excited, and partial spasm of the glottis follows. It is a peculiarity of the action of this morbid poison, as of most morbid poisons acting on the nerves, that the symptoms caused by its presence are of a periodic or intermittent character. Hence it is that the disease commences with a periodic cough, differing in many respects from that which accompanies bronchitis; hence arise the pains of the neck generally complained of by the patients, and hence, finally, the hoop, or back-draught, when the tendency to frequent spasms of the glottis has supervened. In like manner the vomiting which generally accompanies the fits of hooping-cough, is caused by an extension of the morbid excitation to the branches of the pneumogastric nerve supplying the stomach.

Such are the symptoms which, in my opinion, are alone essential to a case of hooping-cough, and which of themselves
constitute the disease. But whether this disease be or be not complicated with other affections, it ought to be treated per se, and not, as is too often the case, as if it were bronchitis or pneumonia, or some affection of the head or even of the stomach.

Entertaining these views, and being aware of the powerful influence of topical applications of solution of nitrate of silver, in allaying nervous irritability of the glottis, it occurred to me, about eighteen months ago, when hooping-cough was more than usually prevalent in this city and its neighborhood, to employ that remedy in the disease just named. I therefore gave up all the usual treatment in the cases which I was attending at the time, and contented myself with confining my patients as much as possible to one apartment, well aired and properly heated, attending to the functions of the alimentary canal, and touching the pharynx and larynx every second day with solution of caustic. Pursuing this treatment, I met with very considerable and unwonted success. My first cases, which occurred in summer, ceased to hoop in about ten days or a fortnight after the solution had begun to be applied; and of late, in our worst winter weather, I have treated several cases to a favorable termination in from two to six weeks.

In November last, I read to the Glasgow Medical Society a paper, detailing the results of this treatment, which induced several gentlemen to use the remedy proposed. Most of them report favorably of their success, and I earnestly hope that a more general trial will soon be given to it, and that its true therapeutic value will be speedily recognized.—[Lon. Lancet.


W. W——, aged eleven years, a delicate boy, was attacked in the early part of last month (November,) with fever, and for which he was treated in the usual manner, namely, salines, antimonials, &c., followed by wine and other support, and under which he greatly improved. The bowels, however, being in a torpid state, mild aperients, with mercury and chalk, were administered, when required. Altogether only three doses of this mercurial were given, one of six grains on the 14th, a similar dose on the 17th, and four grains on the 20th; but most profuse salivation followed, the salivary glands and features becoming swollen to an enormous size, the saliva flowing constantly away, and the breath having the foetid mercurial odour. Port wine, arrowroot, good beef-tea, in fact all the support that could be got down, was given, and lotions employed to the
mouth; but nothing would stop its fearful ravages: sloughing commenced in both cheeks, and rapidly extended through them; that on the right cheek was not larger that a shilling, but on the left side it extended from one-third across the lips backwards to the edge of the great masseter muscle, and from the malar bone to the lower edge of the inferior maxilla; it presented a frightful appearance, the whole of the teeth on that side being exposed. Everything that could suggest itself was done for the poor boy, but all was of no avail, and he died four days after the commencement of the sloughing.—[*London Lancet*.

**Yeast Mixture in Petechial Typhus.**

Dr. Jones (in Dublin Quarterly Jour. of Med.) speaks very highly of the stimulating and antiseptic properties of the following mixture in cases of typhus attended with petechiae and other forms of passive hemorrhages:

\[ \begin{align*} 
\text{B. Cerevisiae fermenti, } & \text{ } \frac{3}{x} ; \\
\text{Camphoræ, } & \text{ } \frac{3}{ss} ; \\
\text{Ætheris nitrici, } & \text{ } \frac{3}{iv}. \text{ } \frac{\frac{3}{j}}{\text{to be taken every first, second or third hour. This removes the dark livid hue of the skin within a few hours; administered in cases of dysentery, attended with great fetor of the dejecta, it has speedily removed all odour, and at the same time rather counteracted the frequency of the discharges from the bowels.} \end{align*} \]

—[*Northern Lancet.*

**Use of Diluted Pyroligneous Acid as a Gargle.** By **John Evans**, M. D., Prof. of Obstetrics, &c. in Rush Medical College.

I have for several years been using diluted Pyroligneous Acid as a gargle in case of inflammation of the fauces and tonsils with better success than any other article that I have prescribed.

I put a teaspoonful of the Acid obtained from the shops into a wine glass of water and direct the patient to gargle the throat frequently with it.

In the sore throat caused by exposure, so common throughout the country, it generally relieves the soreness and stiffness felt in swallowing very promptly.

In chronic inflammation, with or without ulceration, of the throat, I have found it a very valuable remedy.

In the sore throat of Scarlatina it has generally afforded a very prompt amelioration of this symptom of the disease.

In several cases of habitual tonsilitis, by using this gargle
freely at the commencement of the disease, I have been able to arrest the progress of the inflammation and secure a resolution.

Its use is not unpleasant; it is safe, even if used for hours continuously, and has an additional advantage in removing the fetor of the breath.—[North-Western Med. and Sur. Journal.

Cannabis Indica as a substitute for Ergot.

Dr. Christison, of Edinburgh, considers Indian hemp (Cannabis Indica) to possess a remarkable power of increasing the force of uterine contraction during labor. He reports, in the August number of the Edinburgh Journal of Medical Science, some cases in which it was given, with this view, at the Maternity Hospital of Edinburgh. As compared with the action of ergot, that of Indian hemp presents the following points of difference: First—While the effect of ergot does not come on for some considerable time, that of hemp, if it is to appear, is observed within two or three minutes. Secondly—The action of ergot is of a lasting character, that of hemp is confined to a few pains shortly after its administration. Thirdly—The action of hemp is more energetic, and perhaps more certainly induced, than that of ergot.—[Med. Examiner.

Miscellany.

Anonymous writers and Personalities.—Although fully appreciating the benefits of a free press, and of the multiplication of media for the diffusion of knowledge and morality, we cannot refrain from the expression of the profound regret with which we have observed, especially during the last twelve months, certain periodicals ostensibly devoted to the cause of Medicine, allowing their pages to be prostituted by anonymous writers to the grossest personalities and misrepresentations, and occasionally containing even Editorials equally objectionable. If licentiousness in secular newspapers be an evil deeply lamented by all good men, how much more must it be desecrated when found invading the sacred arena until now reserved exclusively for the efforts of minds in search of scientific truth and usefulness!

We would not do injustice to the Medical Profession of our country, by supposing that such Journals can ever secure or retain any countenance. Yet their demoralising influence is incontestible, and can only be arrested by an immediate withdrawal of patronage.
The whole Medical Profession of Georgia and some of its members in particular, the Medical Society and the Medical College, have been repeatedly and are still being made the subjects of most scurrilous anonymous communications to Medical Journals published at a distance, and in various quarters of the Union. The articles are not dated from any particular point, and bear different "noms de guerre;" yet their style and general bearing show them to be all written by the same pen, and to have been indited in Georgia. Editors at a distance can surely have no good reason for not rejecting at once such miserable productions; and we have been induced to make the above pointed allusion to articles bearing upon our own State, in the hope that their eyes may be opened to the plan by which they have been misled.

Medical Society of the State of Georgia.—We are indebted to the politeness of Dr. O'Keeffe, Recording Secretary, for the following abstract of the proceedings of the Medical Society of the State of Georgia.

This Society held its third annual session at Augusta on the 14th and 15th April, when quite a respectable number were in attendance. In the absence of the President, (Dr. R. D. Arnold, of Savannah,) the Society was called to order by Dr. A. Means, the 1st Vice-President. But little business had been transacted, however, when Dr. Arnold arrived and took the Chair. 44 new members were now admitted, which makes the whole number of members 152.

The election for officers to serve until the next annual meeting then took place, and resulted as follows:

President,—A. Means, M. D., of Oxford, Newton Co.
1st V. President—H. F. Campbell, M. D., of Augusta, Richmond Co.
2d V. President—C. T. Quintard, M. D., of Roswell, Cobb Co.
Rec’g Secretary—D. C. O’Keeffe, M. D., of Penfield, Greene Co.
Cor’g Secretary—G. F. Cooper, M. D., of Perry, Houston Co.
Treasurer—R. C. Black, M. D., of Augusta, Richmond Co.

The President elect took the Chair, and in a few pertinent remarks returned thanks for the honor conferred upon him.

The following gentlemen were then elected Delegates to the approaching meeting of the American Medical Association in Richmond, Virginia.

On motion, it was Resolved that the President be authorized to fill any vacancy that may occur in the Delegation to the American Medical Association.

The South-Western Medical Society of Georgia, the DeKalb Auxiliary Medical Society, and the Medical Society of Greene and adjoining counties were admitted as Auxiliaries.

On motion of Dr. Quintard, it was Resolved that Committees be appointed to furnish Essays upon such subjects as shall be designated by the Society.

On motion of Dr. H. F. Campbell, it was Resolved that the Standing Committees on the several branches of Medicine be abolished.

On motion of Dr. Dugas, it was Resolved that a committee of five be appointed, whose duty shall be to report upon the Contributions to Medical Knowledge by Physicians residing in Georgia during the year preceding. The Chair appointed Drs. L. A. Dugas, R. D. Arnold, G. F. Cooper, J. A. Eve, and H. Rossignol, this committee.

Dr. Robert Campbell, Chairman of the Committee on "Empirical Remedies," read an able Report, which was received and ordered to be printed.

Dr. G. F. Cooper read an interesting Report, prepared by Dr. Culler, upon "Health Statistics," based upon data obtained from the U. S. Census, which was ordered to be deposited in the archives of the Society, and for which the thanks of the Society were voted to Dr. Culler.

Able and interesting Reports were read by Drs. G. F. Cooper, C. T. Quintard, P. F. Eve, H. F. Campbell, and L. A. Dugas—all of which were received and ordered to be printed.

Dr. Juriah Harriss, of Augusta, was appointed to deliver the address at the next annual meeting of the Society, and Dr. W. Gaston Bulloch, of Savannah, the alternate. It was determined to hold the next annual meeting in Savannah, on the second Wednesday in April, 1853.

The thanks of the Society were voted to Dr. H. F. Campbell for his chaste Address, (a copy of which was requested for publication,) to the Committee of Arrangements, to the Faculty of the Medical College of Georgia, and to the officers of the past year.

On motion of Dr. Arnold, it was Resolved, to assess each member of the Society Two Dollars to defray the expenses of publication, &c.; and on motion of Dr. Cooper, it was also Resolved, that the Transactions of this Society, when published, be withheld from such members as may fail to remit their assessment to the Treasurer, Dr. R. C. Black, at Augusta.
The following resolutions were offered by Dr. Dugas, and adopted:

Resolved, That a Committee of three be appointed by the President for the purpose of proposing subjects for Essays to be presented at the next annual meeting. (Drs. L. A. Dugas, H. F. Campbell and L. D. Ford, were appointed.)

Resolved, That the President appoint Committees of one for each of the Essays above referred to, whenever he shall have been furnished with the subjects selected.

Resolved, That a Committee of two be appointed to superintend the publication of the Transactions of this Society, with authority to draw upon the Treasurer for the necessary funds. (Drs. I. P. Garvin and T. B. Phinizy were appointed.)

On Wednesday evening the Society partook of a fine collation prepared in one of the College Halls by the Faculty of this Institution. This entertainment, as well as the whole proceedings of the Society, were characterized by the warm-hearted cordiality and good feeling so peculiar to associations of men devoted to Science and to the cause of humanity.

The National Institute of France, has recently awarded the following prizes:

"The prize of experimental physiology was given to M. Claude Bernard, for a paper on a new function of the liver in men and animals. M. Masson and M. Sucquet obtained prizes of 2000fr. each; the first for his method of preserving vegetables, and the second for his disinfection of dissecting theatres. The Monthyon prizes for physic and surgery were awarded as follows: 2,500fr. to M. Jules Guérin, for the generalization of sub-cutaneous Tenotomy; 2,000fr. to M. Huguiier, for his researches into female maladies; 2,000fr. to MM. Briquet and Mignot, authors of a practical treatise on cholera; 2,000fr. to M. Duchenn, of Boulogne, for his electro-physiological researches, applied to pathology and therapeutics; 2,000fr. to M. Lucas, for his physiological and practical treatise on hereditary maladies; 2,000fr. each to MM. Tabarie and Pravez, for the medical use of compressed air; 2,000fr. to M. Gluge, for his pathological histology; 1,500fr. to M. Gosselin, for his researches into the obliterations of spermatic channels; 1,500fr. to M. Garriel, for his application of vulcanized caoutchouc to medicine and surgery; 1,000fr. to M. Serres, for his researches respecting the phosphenes; and 1000fr. to M. Boinet, for his work on the treatment of chronic abscesses by injections of iodine."

Medical Colleges in the State of New York.—An application has been made to the Legislature of New York, for a charter for a seventh
Medical College, and an adverse report presented by the Committee to whom it was referred. Among other reasons assigned, is that of the inability of the existing Colleges to sustain themselves, as evinced by this indebtedness. The College of Physicians and Surgeons, owes $15,000; the Geneva College, $400; the New York University College, $47,000; and the Buffalo College, $3,300. We derive the above information from the New York Medical Gazette.

New Medical Periodicals.—A new feature in the periodical medical literature of our country, is the publication in New Orleans of "L'union Médicale" in the French language. A portion of the "Canada Medical Journal" is also published in French. This will doubtless enable many of our medical men to keep up their knowledge of that polite and useful tongue. We have received "The East Tennessee Record of Medicine and Surgery," edited by Frank A. Ramsey, A. M., M. D., Knoxville. It is to be issued in quarterly numbers of 100 pages each.

A New Method of Whitening Bones. By Ellerslie Wallace, M. D., Demonstrator of Anatomy in Jefferson Medical College, Philadelphia.

To the Editors of the Medical Examiner.

Gentlemen,—During the past year, I have used sulphuric ether for the purpose of extracting the greasy matters from bones of which I have desired to make preparations, and have uniformly found it entirely satisfactory. I have used it for entire skeletons where they have been of value.

Twenty-five or thirty pounds of ether (which can be obtained for 18 cts. per lb.,) is enough for a skeleton, if the bones be closely packed in a proper case. After pouring the ether on them until they are entirely covered, they may be left for some hours, or a day; then removing them, they should be allowed to dry thoroughly. This process should be repeated as often as may be necessary.

Six immersions have been enough for a very greasy skeleton. It is prudent to wash the ether before using it, to remove free acid, and we may have the ether re-distilled after it is saturated with the oil. To morbid specimens, as of caries, &c., it is admirably adapted, as it removes the grease entirely, without injuring the delicate structure at all, which is not the case, as we all know, with any of the ordinary alkaline solutions.

Mortality of Children.—According to Quetelet, 22,472 children in every 100,000, die within 12 months after birth; and more than 2 in every 7 within the first 2 years. This may be true in Europe, but we think that, it is certainly not so in our country.
Tribute of Respect.—At the regular meeting of the Georgia Medical Society, held on the evening of March 4th, the Committee appointed for the purpose, reported the following Preamble and Resolutions, which met with unanimous adoption by the Society:

Since the last regular meeting of the Georgia Medical Society, our esteemed President, Dr. Cosmo P. Richardson, has departed this life. The many and various tributes to his worth as a citizen, which were poured in on all sides, the distinguished honors paid at the interment of his remains, truthfully attested the high estimation in which he was held by his fellow-townsmen. While we rejoice that one of our number should have so faithfully fulfilled all the duties of his social position, as to have descended to his grave amidst the sorrow of a whole people, it becomes our duty to pay our tribute to him more exclusively as a member of our Society, and as an ornament to his Profession; a Profession which we are proud to consider as inferior to none in dignity of calling and humanity of purpose.

To a mind of great quickness of perception, he united a decision of character and action which rendered him ever prompt and energetic in ministering to the sick. A large practice and the unbounded confidence of his immediate patients were the legitimate results of these qualities. His intercourse with his Brother Physicians was marked with all the courtesy and liberality due to his own high sense of the requirements of a liberal Profession, whose standard he ever labored to elevate. While he endeavored to do this he treated with the contempt of conscious superiority, those self-styled systems of medicine which are tried more as a royal road to money than to learning, and in the success of his own practice gave ample evidence that in following the lights which had been hung out by the experience of ages, he followed no "Will-of-the-Wisp."

It is therefore Resolved by the Georgia Medical Society, That in the death of Dr. Cosmo P. Richardson, they have lost one who was endeared to them as a man by his kind and generous feelings; one who from his large experience and great natural qualifications, and his high tone in all situations, in which he came in contact with his Brother Physicians, was an ornament to his Profession, and whose loss in the meridian of life and usefulness, they unaffectedly deplore as a most serious one to them.

Resolved, That this Society do most deeply sympathize with the Family of the deceased, and that a copy of these Resolutions be furnished them; and that they also be published in the Daily Prints of the City, and in the Southern Medical and Surgical Journal of Augusta.

R. D. Arnold, Chairman Committee.

J. Ganahl, Secretary.

Errata.

Page 264, fourth line from bottom, for "live," read life of the.
" 265, sixth line from top, for "page," read lecture.
" 266, thirteenth line from bottom, for "type-form," read type-power.
" 269, fourteenth line from bottom, for "their," read this.
" 270, eighth line from bottom, for "dissimilarities," read dissimilarities.
" 271, seventh line from top, for "existing," read exciting.
" 274, second line from top, for "inflammation," read inflammation.