treatment was required, and the woman had a very narrow escape. If the views of M. Mialhe on the action of the ergot be, as I in a great measure regard them, correct, there can be little doubt that the ergot alone might lead to such consequences.

The diseases of the uterus and ovaria are by far too important to justify a mere cursory notice, and must therefore be reserved for future and more careful consideration than can now be bestowed on them.

In the table are marked nine cases, under the title of *Vaginitis* and *Ulcers of the Vagina*. These cases are interesting from the period of life at which they occurred, and also from their great importance in a medico-legal point of view.

The cases presented themselves in two forms,—the one resembling simple though severe inflammatory gonorrhœa; the other syphilitic and even phagedenic ulceration of the parts. They occurred in *young children*, from the age of six months to that of seven years, and in three or four instances threatened life itself. But for the attention which many years ago I devoted to the subject, as a lecturer on medical jurisprudence, and the fact of numerous instances of the disease occurring about the same time, and in a particular locality, it is more than probable, that the most erroneous opinion might have been formed as to the real nature and origin of these cases. It is now, however, consistent with my own personal experience, to verify what is stated in Dr. Ryan's Manual of Medical Jurisprudence, and to affirm, that at the time when the cases were met with by me, many others existed, some of which terminated fatally, under the combined influence of sloughing and constitutional disorder, consequent on the local affection; in fact, the cases were sufficiently numerous to warrant the idea of their origin in some peculiar or epidemic cause, and so far confined to one locality, as to give to them something of an endemic character. Their medico-legal interest depends on their connection with the subject of VIOLATION, for the effects of which they have been mistaken, thereby unjustly jeopardising life, or at all events leading to unfounded charges against the innocent. In support of this statement, I might adduce cases, but such proceedings is out of place at present. I will now therefore merely state, that, in those cases in which the disease partook of the character of gonorrhœa, the vinum opii, in the form of lotion and ointment, applied to the parts, was the most effectual local application; and aided by small doses of the hydrargyrum cum creta and antimonial powder, soon accomplished a cure. In the more severe and ulcerative disease, the creosote ointment acted most beneficially; not only promoting the separation of the sloughs, but also exciting healthy action in the subjacent parts: under the employment of this remedy, and the internal exhibition of the alterative above mentioned, all the cases did well.

Two other cases recorded in the table may be briefly alluded to,—not as possessing any *pathological* interest, but as being certainly of very rare occurrence: they are those placed under the term "Premature menstruation." In one of them, the child was under the age of five years, and the discharge had appeared three or four times with the most perfect regularity. The health of the child seemed unimpaired, in

consequence of which, I simply advised sea-bathing, good diet, and strict attention to the bowels. In the other the child was under nine years of age, and had experienced several natural and well-marked periods. In this case, the appearance of the child indicated a more advanced age, but, no doubt, whatever existed as to the veracity of the parent: a similar course was recommended in this case, as the health was in no wise impaired.

There is yet another affection which in the table has been placed with nervous affections, and which may now be very briefly noticed, as from the excellent observations made in a recent lecture by my former friend and fellow-graduate, Dr. Favell, it is unnecessary to dilate upon it. I allude to "Spinal irritation." In the view taken by Dr. Favell I mainly concur, but am also inclined to believe, that in many cases of the disease it is less essentially inflammatory in its nature than he considers it, and more dependent on mere morbid sensibility. My reason for this opinion is, that in several instances, even where pain has been exquisite and increased on the slightest pressure, the most speedy and permanent relief has been obtained without the intervention of either local depletion, or counter-irritation, but from a very opposite plan—viz., the use of sedative applications, either in the form of plasters or embrocations, and the internal exhibition of assafoetida and valerian, more especially where the affection was at all connected with any menstrual irregularity. This form of the affection is also of frequent occurrence during the period of gestation, of which my own practice has afforded me many instances. My object in making these remarks is not at all to contravene the opinions of Dr. Favell, in which, so far as the inflammatory form of the disease is concerned, I entirely concur, but merely to state my conviction, that in this as in most other diseases, similar symptoms may and do arise from very opposite pathological conditions, and consequently, no general nor systematic plan of cure can be relied on, as generally applicable.

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(To be continued.)

MEMOIR ON THE DIGESTION AND THE ASSIMILATION OF AMYLACEOUS AND SACCHARINE MATTERS.

By Dr. MIALHE, Professor Agrégé at the Faculty of Medicine, Paris.

(Continued from page 346.)

CONCLUSIONS AND COLLARIES.

The facts newly acquired to science on the digestion and assimilation of amylaceous matters, permit us to establish as a principle, that the same chemical reactions preside over the great phenomena of nutrition, both in plants and in animals.

In plants the starch contained in the organs, can only serve for nutrition after having been rendered soluble by the influence of a special ferment—diastase; and what is remarkable, when the physiological distribution of this ferment is first examined, is, that it exists only in feculiferous seeds, near the germs, and not in the radicals; that it is neither developed in the roots nor in the shoots of the potatoe, but only in the tubercles.

It exists exactly where theory indicates that its reaction will be most useful in dissolving the fecula, and rendering it capable of assimilation. So also in animals, starch can only serve for nutrition after having undergone solution, and it is by the same ferment—diastase, that its liquefaction is effected. Here again, as in plants, the diastase is excreted into the very places where it can exercise on the starch the most effective chemical action,—the mouth and the duodenum, where the preparation of the alimentary mass commences, and where its liquefaction is completed.

Vegetables are capable of being nourished with the neutral hydro-carbonated substances, starch, wood, &c., only in so far as these matters are decomposed by the alkalies contained in the soil, and transformed in the first instance into various soluble products, among which a brown substance—ulmin, is remarkable. Animals in their turn can only assimilate the same neutral hydro-carbonated matters, in as far as they are decomposable by the alkalies contained in the vital fluids, and transformed into various soluble products, in the number of which ulmin is also observed.

These facts reveal the intimate connection between the two kingdoms, and these similar reactions evidently verge towards the same point, tend to the same end,—the production of the matter indispensable to the manifestation of life,—organised matter.

Several physiological problems are capable of being resolved by these considerations, as I proceed to shew by some examples:—

In vegetables, the nourishing liquid, the sap, contains, in the normal state, glucose or grape-sugar; in animals, the nourishing liquid, the blood, contains glucose only in the abnormal or pathological state. The reason of this difference is, that the sap is neutral or acid, and never alkaline; while on the contrary, the blood is normally alkaline. Now, the presence of alkalies is incompatible with that of glucose; but if the acid secretion of the skin be accidentally or incautiously checked, or if immoderate quantities of acidulated substances, or substances easily becoming acid, are daily introduced into the animal organism, the blood loses its alkaline qualities. Saturated by the acids it becomes neutral or acid, puts on chemical characters analogous to those of the sap, and the presence of sugar of starch or glucose becomes possible, constituting the diabetic condition. On the other hand, if the acidity of the vegetable be modified by watering with a slightly alkaline solution, the sap acquires chemical properties analogous to those of the blood, the sugar is no longer produced, or to speak more correctly, is destroyed as fast as it is formed, the tree ceases to be diabetic, if the expression may be allowed, its secretions are no longer saccharine, it no longer bears saccharine fruits. This fact has been perfectly established by M. E. Frémy.

If it be objected that herbivorous animals, which ingest organic acid matters, or matters capable of becoming acid, as much as and even more than man, do not become diabetic, I reply that it is because man introduces into his system free acids, pure acidifiable organic matters, starch, gum, sugar, &c., whilst the animal never takes free acids, and is nourished only by brute organic substances, containing always a marked proportion of alkaline salts to the organic acids, capable of being burnt in the blood, and of being changed into carbonate of potass—a fact which

at the same time explains why herbivorous animals have the greater part of their intersceral fluids, (not even excepting the urine,) alkaline, and why diabetes is unknown in them. Nature has with the evil given the remedy.

It is well known that young infants digest feculent aliments but little or not at all. It is because before the first dentition insalivation is almost null. It has also been remarked, that by adding certain condiments, which act powerfully on the salivary secretion,—such as salt (for example,) to amylaceous decoctions, their digestion is rendered easier and more complete. If the toasted bread, known by the name of *biscotte* (rusks,) appears to be an exception to the rule I have indicated, and is infinitely more digestible than the other preparations of fecula, it is solely because a part of the starch has been modified during its preparation in the same manner as during insalivation; that is, it has been partially changed into dextrine and into glucose.

Finally, what shows in an incontestable manner that it is really to the saliva that the first cause of the digestion of feculent aliments should be referred, if amylaceous alimentary matters be administered to very young infants after having been sufficiently reduced to a pulp and mixed with saliva, as certain mothers are in the habit of doing, the digestion is incomparably more easy and more complete. As, however, the practice of this mediate insalivation is somewhat repulsive, it is well to know that the same result may be obtained by introducing into the panada (*bouillie feculifère*) a small quantity of diastase, or an equivalent proportion of germinated barley,—an observation to which I would particularly direct the attention of the Academy, as it will infallibly produce advantageous modifications in the alimentation of young children.

SUMMARY.

From the whole of the preceding researches it results, that in all animals, without exception, feculent matters become saccharine under the influence of the diastase, which exists in the normal state in the liquid secreted by the salivary glands and the pancreas.

This transformation of amylaceous substances into dextrine and into glucose, by the salivary diastase, far from being a pathological fact, as had been thought, is a physiological and necessary fact; for without this transformation, feculent matters would cease to be alimentary, as they are not capable of absorption, and only become so after having undergone the action of the diastase.

Dextrine, glucose—in a word, the newly formed saccharine matter, to undergo assimilation, must be transformed by the alkalies of the blood into new products, the principal of which are, in all probability, kali-saccharic acid, formic acid, and ulmin.

If the alkaline state of the blood does not suffice for the transformation of the saccharine matter, (the blood having become too little alkaline, neutral, or even acid,) this transformation cannot take place, the sugar becomes a foreign body in the system, and as such is thrown out through the renal glands, as in diabetes or glucosurie.

But seeing that the saccharine matters perform an important part in the great process of nutrition, and do not serve solely for the support of respiration as some philosophers have thought;—that on the contrary,

certain of them participate in the chemico-vital reactions presiding over the constant organic changes, the sum of which constitutes life, it results that if their assimilation is annihilated, (chronic diabetes,) or simply vitiated, (acute diabetes,) abnormal molecular decompositions are effected at the expense of the living fluids and tissues. Two orders of principal facts are thus observed :—

1. A general disturbance of the fluids of the system owing to a defect of alkalinity, giving rise to weakness of sight, engorgement of the capillaries, and pulmonary tuberculization.

2. A profound alteration of nutrition, leading to weakness, languor, and emaciation. It is to these two orders of physico-pathological facts that the constantly fatal termination of diabetic affections must be attributed, when the chemical laboratory of the human body has not been rendered capable, by methodic treatment, of assimilating—that is to say, of decomposing, the alimentary substances which constitute the group of amylaceous matters.

PROVINCIAL
Medical & Surgical Journal.
WEDNESDAY, AUGUST 5, 1846.

Some letters from members of the Association, published in the present and recent numbers of the Journal, on the objects of the Association, its publications, and proceedings, appear to us to require a few explanatory remarks, as well to prevent misconception by other parties, as to place certain of the questions touched upon in their true light. This becomes the more necessary, as we observe that some difference of opinion exists, and that the position of the Association, as an institution intended to form a bond of union for the whole provincial profession on common grounds, has been misunderstood. The space which can this week be devoted to a consideration of the several points to which these questions give rise, is too limited to do justice to them; but we propose to take up the subject in the next number of the Journal,—not with any view of influencing the decision of a general meeting in the adoption of any course of proceeding which may seem fitting, but simply to shew the principles on which such of the proceedings of the Association as are here touched upon have been based, and to recall to the minds of members the circumstances which have led to the failure, for the present, on the part of the Association, in common with every other body of the profession, corporate or voluntary, in the attainment of one great object in which the whole medical profession has been engaged.

**NEWTON BRANCH OF THE PROVINCIAL
MEDICAL AND SURGICAL ASSOCIATION.**

ANNUAL MEETING.

The tenth Anniversary of the Newton Branch of the Provincial Medical and Surgical Association was held at Newton, on Thursday, June 25th; Dr. Scott, of Liverpool, the President of the year, in the Chair. Among the members present were—Edward Holme, M.D., Edmund Lyon, M.D, John Hatton, Esq., James Whitehead, Esq., Manchester; John Mather, Esq., Ashton-le-Willows; A. O. Leete, Esq., Thos. Sumner, Esq., Newton; Sir Arnold Knight, M.D., G. C. Watson, M.D., James Carson, M.B., Benjamin Barrow, Esq., Thomas Burrows, Esq., Ellis Jones, Esq., Thomas Eden, Esq., Liverpool; J. Armitage Pearson, Esq., Woolton.

Dr. Scott having opened the meeting by an appropriate address, the Secretary then read the report of the Council as follows :—

“An annual report of the mere ordinary proceedings of any community, must, under every circumstance, bear more or less of a monotonous character; how much more therefore must this be the case, when the report is confined within such a limited space as the district of this Branch of the Provincial Medical and Surgical Association. The Council have at all times been seriously impressed with this fact, but never more so than upon the present occasion, when in none of the great matters touching the profession, do they find one subject calling for congratulation. Those who undertook the settlement of medical reform have abandoned it, without adding to the profession one iota of respectability or honour; and we find ourselves now left “in confusion worse confounded.” Although Sir James Graham has thought fit to withdraw his Medical Bill, without achieving any of the long desired and much required objects, still the Council cannot but reflect that this has been for the most part occasioned by a want of unanimity amongst the members of their own profession. The consideration of these circumstances induces the Council earnestly to call, not only upon the Members of their own, but upon those of all the Branches of the Provincial Medical and Surgical Association, for a more strenuous exertion and cordial co-operation, not so much in the accumulating and discussing of medical facts, as in the assembling together the members of this profession, for the purposes of social and friendly intercourse, without which they are assured there can be no reciprocity of those feelings, which are so essentially necessary for the honourable adjustment of all those differences, which at this time divide them into parties, thereby seriously injuring the best interests of the medical practitioner, no less than impairing, to a great extent, his public usefulness.”

The report concluded with a statement of the finances of the Branch, which was highly satisfactory.

It was then unanimously resolved :—

On the motion of Dr. G. C. Watson, of Liverpool; seconded by Mr. Burrows, of Liverpool,—

That the report of the Council now read, be adopted, and printed for distribution to the members, together with the proceedings of this meeting.