urethra about a pint of blood. This was repeated three or four times during the night, my assistant remaining with him.

December 25th. He had slightly rallied. The treatment was continued.

December 26th. Hiccup continued; this was relieved by bits of ice. He still complained of pain in the groin. Gallic acid, with hydrargyrum cum cretâ, were given three times a day.

December 27th. He continues very much the same. I ordered beef-tea and brandy to be continued. The urine was albuminous.

December 28th. The bowels not having been opened, I ordered half an ounce of castor oil, and this to be repeated in three hours. As he complained of a general pain all over the abdomen, and tympanitis, a linseed poultice was applied, and increased doses of the hydrargyrum cum cretâ with opium. The gallic acid was omitted. Ice was continually given; this relieved the hiccup and vomiting, which had reappeared. By these means, the pain over the abdomen was relieved; and, without any other severe symptoms, the wound gradually healed; and, on the 14th of January, he was able to be removed to his own home—a distance of nearly half a mile. I still continued to visit and watch the case daily.

January 21st. I perceived, for the first time, a slight fullness over the wounded part, at about the situation of the internal opening of the wound; this gradually enlarged, without much pain. I thought that, in all probability, it was a collection of pus, the deep parts not having united so soon as the external parts. No pain was complained of, only the fullness; and, as Nature had done so much for my patient, I thought that I would leave the abscess to her care also, unless urgent symptoms should arise.

January 25th. On examining his urine under the microscope, pus-globules were found, with exudation cells. I therefore thought that it would be advisable to open the abscess, for fear of mischief by pressure upon the kidney.

January 26th. I made a valvular opening into the tumour, which had now reached the size of a small child's head. About a pint of urine immediately escaped, loaded with phosphate and a little pus. I carefully closed the opening, before the tumour was quite empty, with a compress and bandage; and, as he was very faint, and vomiting came on, I gave him an opiate, with a full dose of castor oil.

January 27th. I again opened the valve, and allowed a quantity of clear urine to escape; and, as there was great tenderness over the whole of the abdomen, I diminished his food, gave small doses of calomel and opium, and applied linseed poultices over the bowels. By these means, the thirst and sickness were relieved; and, on the next morning (Jan. 28th), I allowed the sac to empty itself thoroughly; its contents, as before, being clear urine, of strong smell, and with a little pus settling to the bottom of the cup. The external opening very soon healed, and I had to reopen it and pass a small female catheter up a passage extending upwards and inwards for about three inches, where there seemed to be a small sac. This I repeated night and morning for nine or ten days, when, as the secretions had gradually diminished, I merely applied a bandage with small pledgets of lint. The man has had no relapse since then. He enjoys life, and can eat and drink heartily of ale and spirits, without any unpleasant after consequences in the kidney. He has decidedly grown much fatter since the accident than ever he was prior to it.

LIQUOR SODÆ CHLORINATÆ AS A LOCAL APPLICATION IN SMALL-POX.

By JOHN GABB, Esq., Bewdley.

I HAVE found a weak solution of the liquor sodæ chlorinatæ so beneficial in the affection of the mouth and throat, in cases of small pox, that its efficiency cannot be too widely known. It may have been used by others; but, if so, I have not seen any account of it. In each case in which I have employed it, the effect has been extraordinary: one washing of the mouth and gargling of the throat has restored the patient to comfort, and ability to speak or swallow without difficulty. The strength I have used has been a drachm to half a pint of water. Applied to the skin, it has had the effect of allaying the troublesome itching; and I think it not unlikely that a much stronger solution, applied in the earlier stage of the eruption, might be as efficient in preventing pitting as some other remedies which have been recommended, whilst at the same time it could be more easily used.

Finding the solution so useful in allaying the itching of small-pox, I gave an old woman, aged 86, who had been for more than twelve months tormented with pruritus, and had tried various remedies without effect, the same to use as a lotion. In a few days she came for more, and said she had never used anything that gave her so much relief.

Gulstonian Lectures :

ON

DIABETES AND SACCHARINE CONDITIONS OF THE URINE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS,
FEBRUARY 25TH, 27TH, AND MARCH 4TH, 1857.

By ALFRED B. GARROD, M.D., Fellow of the Royal College of Physicians; Professor of Materia Medica, Therapeutics, and Clinical Medicine, at University College; and Physician to the Hospital.

LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—Honoured by being selected by the College to deliver the Gulstonian Lectures of the present year, I was at first a little perplexed to find a subject with which I could presume to occupy the time of such an audience, or upon which I could hope to throw any additional light. On further consideration, however, finding that I had met with many cases of disease accompanied by saccharine urine, some presenting all the phenomena which attend true diabetes, others exhibiting symptoms but little marked, and such as might be readily overlooked, it occurred to me that I might possibly be able in these lectures to lay before you, in a small compass, the present state of our knowledge on this important subject, and endeavour to show what advances have been made of late in our progress towards unraveling the mystery which has so long enveloped this most obscure affection. It might naturally have been expected that the discoveries of modern science, and especially the rapid strides of organic chemistry, would ere this have been enabled to solve at least some of the difficulties. Chemistry has indeed shown the nature of the morbid product in this disease, its properties, composition, and the changes it undergoes; how it may be imitated, and so forth; but we have signally failed, by the aid of this science, in obtaining a clue to the real nature of the alterations which constitute the essence of this disease.

Although I fear we shall have to confess that our knowledge is still very imperfect, yet at the same time there are, I think, grounds for encouragement; for, if we do not know at present what diabetes really is, we have of late been able to affirm more confidently what it is *not*; and this alone indicates considerable progress. Besides this, recent investigations upon the so called glycogenesis, or sugar-forming function in the animal economy, appear to throw glimpses of light which may probably one day remove much of the obscurity which has hitherto prevailed. In the present lectures, it is my intention to limit the term diabetes to that form of disease in which the secretion of urine is not only excessive in quantity, but in which also its quality is altered from the presence of sugar—a principle which is absent in the healthy secretion. Other forms of disease, in which the urine is excessive, but where no saccharine matter exists, I should be disposed to follow the custom of many high authorities, and class under the head of excessive diuresis. Some difficulties, however, have occasionally arisen from the confusing together of many very different diseases under the general head of diabetes.

Saccharine diabetes has received many synonyms; sometimes it is called diabetes mellitus, to distinguish it from simple excessive diuresis, often named diabetes insipidus; it has been called also paruria mellita and melituria; and recently, on account of the supposed identity of diabetic sugar and glucose or starch sugar, it has been named by French physicians glucosuria—a term now often employed in this country.

The ancients were totally unacquainted with the morbid condition of the urine which is pathognomonic of this disease, and hence grouped together indifferently all affections in which a great flow of urine was the prominent symptom. It was only in 1684 that Willis first called attention to the curious and im-

portant fact, that the urine in many cases of diabetes appeared to contain a saccharine principle. For a long time, little notice was taken of this discovery; and any progress which has been made in the investigation of the symptoms, nature, and treatment of this affection, date from within the last half-century.

The present lecture I shall devote chiefly to the examination of the various symptoms exhibited by patients labouring under a saccharine condition of the urine. In the remaining lectures, I shall discuss the various theories advanced as to the nature of the disease, and speak more fully of its progress and causes; and point out what value may be placed upon the different remedies and plans of treatment which have been proposed for its mitigation or cure.

From an investigation into the history of many cases of this affection, it appears to me that diabetes frequently commences as an acute disease, and may within a very short time, even a few days, assume all its intensity. In my note books there are records of several cases, more or less to the following effect. A person in good health, without having had any increased desire to pass water, any thirst or dryness of skin, becomes exposed to severe and prolonged cold, sometimes after having indulged rather freely in alcoholic liquors; in a day or so, perhaps even the next day, he experiences a peculiar dryness of the mouth, a want of the usual perspiration, and notices likewise that the amount of his urine is very much augmented; and from that time he becomes a confirmed diabetic subject. Such forms of the disease may be properly termed *acute diabetes*. There are, on the other hand, many who, from their history, would appear to have been suffering from a saccharine condition of the urine for several years before the increase of the renal secretion attracted attention, or the nature of the disease became correctly ascertained. As an example of this form, I may mention that of a gentleman under my care at the present time, who had symptoms evidently most closely connected with a saccharine condition of the urine for more than eight years before the character of the affection was known, and in whom the diuresis was never sufficiently developed to lead him to suspect himself a diabetic subject. When the disease assumes this form, it may be classed under the head of *chronic diabetes*, as may also other cases of saccharine urine where the augmented secretion never becomes a prominent symptom: I say *prominent* symptom, because, in all instances in which I have been able to ascertain the total amount of urine in the twenty-four hours, a somewhat abnormal quantity has been eliminated. By the aid of properly directed dietetic and medicinal treatment, the acute affection not unfrequently merges into a chronic condition, with symptoms closely resembling those to which I have just alluded.

I shall at first point out the most important symptoms which occur in these different forms of diabetes, comparing the results obtained from my own observation with those arrived at by others, and endeavour to show what are the essential phenomena, and such as are merely accidental, depending on complications having no necessary connexion with the disease under consideration.

As the increased flow of urine, and the alteration in the character of that secretion, are among the most constant and important changes in this disease—alterations from which, indeed, its name is derived—I shall at once direct your attention to this point.

The urine in diabetes may, as far as appearance is concerned, exactly resemble the healthy secretion: it may, however, and generally does, differ considerably from it. When the quantity is large, it is very pale, sometimes almost devoid of colour, transparent, free from deposits; with an odour which has been compared by Dr. Prout to that of hay or milk; by Dr. Watson to that of an apple-chamber. To me the odour appears more like that of whey; but, as such urine soon undergoes changes from fermentation, the smell varies much with the time which has elapsed since its elimination. Any peculiarity of odour which diabetic urine may possess is confined to such as contain but little of the ordinary urinary constituents. In the acute affections, when, by appropriate treatment, etc., the amount has been brought down to within 100 fluid ounces per diem, also in the chronic forms of the disease, although the urine may be very rich in sugar, I have not been able to appreciate any peculiarity of odour. The flavour of diabetic urine is distinctly sweet. This, again, is best observed when there is much deficiency of those constituents on which the ordinary taste depends.

The quantity of the urine passed by diabetic patients is very variable. Enormous amounts have been mentioned, as much as 200 pints per diem, on the authority of an Italian named

Fonseca; but this is somewhat doubtful. Trustworthy observations have established the fact that as much as 30 and 40 pints have occasionally been voided. I have myself known as many as 19 imperial pints passed during one night; but, as far as my experience goes, these excessive quantities are not common when patients are in favourable conditions as to temperature, and when some slight restriction is placed on the nature of the liquids taken. It is only when the patients have been exposed to the inclemencies of the weather, and drinking enormously of malt or other alcoholic liquors, that I have observed such excessive diuresis. In the hospital, where the temperature of the wards has been nearly uniform, and water or toast and water the beverage allowed, the quantity of urine passed in twenty-four hours by patients under my care has seldom exceeded 20 pints, or 400 fluid ounces; generally it has been much under this quantity, as from 10 to 12 pints; and this before any dietetic or medicinal treatment has been enjoined, with the exception of the restraint in alcoholic liquors. The following table gives the results obtained from eight cases before the commencement of treatment, the patients being allowed the ordinary full or extra full diet of the hospital, with an occasional addition to the food when the appetite was ravenous.

	Quantity.	Specific gravity.
E. H., a young woman . . .	120 to 132 fluid oz.	1040 to 1042
H. W., a young man . . .	232 to 268 „	1037 to 1040
E. H., a middle age . . .	179 to 212 „	1030 to 1036
P. C., a middle age man . . .	168 to 390 „	1032 to 1041
H. B., a middle age woman . . .	180 to 256 „	1032 to 1040
C. H., a youth	168 to 234 „	1037 to 1044
J. S., a young man	162 to 296 „	1047 to 1057
R. B., a young man	148 to 280 „	1040 to 1044
C. M., a girl	210 to 300 „	1046 to 1050

Sometimes the quantity of fluid thrown out in a given time exceeds in weight the total quantity of the ingesta. This has been observed by Mr. McGregor, and Drs. Bardsley and Christison. The excess must then be made up by cutaneous absorption, as proved by Dr. Watson to have occurred in a boy suffering from excessive diuresis, or the so called diabetes insipidus. In health, we may fairly assume that the twenty-four hours average in this country is about 45 fluid ounces. Diabetic or saccharine urine is almost always heavier, or has an increased density over that of the same fluid in health, taking the average specific gravity during the twenty-four hours at 1020 (distilled water being 1000); the urine in diabetes is generally found to range from 1030 to 1050, as the above table shows. Many exceptions, however, are found; sometimes the density is as high as 1060; I have once known it to be a little above this. On the other hand, saccharine urine has been found by Dr. Prout as low as 1015; by Dr. Christison, 1021. About a month since, the urine of one of my diabetic patients had the specific gravity 1017, and yet contained a very notable quantity of sugar. These differences are not difficult to account for, considering that there are many circumstances, especially the intervention of other diseases, which for a time may much diminish the amount of the sugar eliminated. As a rule, I have found that, in cases of diabetes, the density of the urine increases with its quantity; that is, the solid portion of the diet remaining the same, any increase in the quantity of the urine passed in the twenty-four hours, produced by augmented thirst, and the consequent imbibition of a larger amount of fluid, is accompanied by a higher density. This is a fact of some importance, to which we shall have occasion to recur.

With regard to the chemical composition of diabetic urine, I may state that its great peculiarity consists in containing sugar; and, as far as analysis has yet shown, I believe this is the only constant abnormal ingredient. This sugar, which is named diabetic sugar, resembles very closely that found in most fruits, such as can also be readily produced artificially from starch, and named grape-sugar or glucose. I say that diabetic sugar is *allied* to glucose, for it appears not to be absolutely identical with it, as usually supposed.

The varieties of sugar found in the animal and vegetable kingdoms may be conveniently grouped in two distinct classes, from the peculiar reactions they exhibit.

The first class, including cane-sugar and that from beet root, is thus distinguished. When boiled with a solution of potash, soda, lime, or any other fixed alkali or alkaline earth, it is not decomposed; the solution turns the plane of polarisation of a ray of light to the right, and, by the action of dilute acids, it is converted into sugar of the second class. When in contact with yeast, it also undergoes transformation into the second form, prior to the occurrence of vinous fermentation.

The sugars in the second group, as glucose, diabetic sugar, sugar from the liver, etc., are readily broken up when boiled with alkalies, with the formation of brown coloured acids, as melassic and sacchulmic acids; their solutions turn the plane of polarisation to the left; they readily ferment with yeast, and also reduce the salts of copper. It appears, however, that there are slight differences in these different sugars, as that obtained from the liver, and also diabetic sugar, more readily undergo fermentation than the glucose from starch.

From a knowledge of these properties, it is not difficult to discover the presence of diabetic sugar in urine, at least when it exists in any quantity, and more especially when this fluid exhibits the characters commonly met with in cases of confirmed diabetes. Perhaps the most simple test is that named Moore's test, which consists in heating the urine in a test tube with about an equal bulk of liquor potassæ of the Pharmacopœia strength; just before the fluid arrives at the boiling point, decomposition ensues, and a fine yellow or orange colour is produced; this gradually deepens, and, if the sugar is large in quantity, becomes orange brown and even dark brown; at the same time, a distinct odour of caramel or burnt sugar is evolved. By a little manipulation, this test can be rendered exceedingly delicate; for, if we first add a drop or two of the potash solution, to ensure slight alkalinity, and then some good bone black or animal charcoal, and throw on a paper filter, we obtain a fluid quite colourless, and which, on the further addition of the liquor potassæ, gives rise to no precipitate of earth phosphates, and when heated, the yellow or orange colour can be much more readily observed than in the urine before preparation; again, the delicacy can be still further increased by using only a few drops of a concentrated solution of potash in lieu of an equal bulk of that of the Pharmacopœia strength, as the volume is then scarcely increased. Some objections to this test have been made, and do perhaps exist; Dr. Owen Rees has stated that if the potash solution contains lead, it may cause a brownish colouration from some sulphur compound in the urine, especially if albumen be present; with a discoloured urine this could be easily distinguished. There are doubtless other solutions besides sugar which may change colour when heated with potash; but I believe these seldom exist in the urine, or are likely to lead to any serious error, when due precautions are taken in the employment of this reaction.

Moore's method is an exceedingly valuable one, for if it is not quite conclusive as a positive test of the presence of sugar, it is at least as a negative one; and in a prepared decolourised urine, should no change of colour occur on boiling with potash, we may safely conclude that no sugar exists, or, at any rate, such traces as may be safely disregarded. I have by means of this test recognised sugar in the urine of an apparently healthy person, about four or five hours after a full meal, no trace being discoverable in the fluid passed at a period most remote from the influence of food. I believe it will detect a small fraction of a grain in a fluid ounce of urine.

The next tests are those depending on the reducing power of sugar upon the salts of copper, and of these, several modifications have been proposed. One, named Trommer's test, is thus performed. The fluid to be examined is treated with caustic potash, and if there is much precipitate of earthy phosphate, it should be afterwards filtered, or the urine may advantageously be decolourised in the way I described when speaking of Moore's test; an excess of potash is of no consequence, and the alkali should always be present in quantities more than sufficient to decompose the sulphate of copper which is subsequently added; this latter should be in a dilute state, and added drop by drop; a precipitate of the blue oxide of copper at first falls, which is dissolved if sugar exists, with the production of a beautiful azure blue colour; the amount of the oxide dissolved being usually in proportion to the sugar present. When no further oxide is taken up, the liquid should be heated to the boiling point, the azure blue coloured is changed to a yellow or orange yellow, at the same time that turbidity is induced by the suboxide of copper becoming precipitated. Some precautions are necessary in making use of this test; and we must remember that albumen and ammonia salts have the power of dissolving the oxide, and producing the blue solution; and that very prolonged boiling may cause other substances which may be in the urine, beside sugar, to give rise to the precipitation of some suboxide of copper. These other substances are uric acid, creatine, and creatinine.

Another method of applying the copper test is to prepare a solution of the blue oxide of copper, in the way prepared by Barreswil, Fehling, Poggiale, and others. Barreswil's solution

is thus prepared. Take 96 grains of cream of tartar, 96 grains of carbonate of soda (crystallised), 32 grs. of sulphate of copper, and 64 grains of caustic potash; dissolve in two fluidounces of distilled water, and filter. We have then a beautiful azure blue liquid, which, when added to urine or any fluid containing sugar, and the mixture brought to the boiling point, changes colour in the way before described, and becomes turbid from the precipitation of the red suboxide of copper. This test is subject to the same objections as Trommer's; and it is important to take care that it is either freshly prepared, or at least that there is an excess of caustic alkali, otherwise it may deposit the oxide even when no sugar is present. Both these tests, I believe, are sufficient, with proper precautions, to determine the presence or absence of sugar.

The test by fermentation with yeast, is one which has always been regarded with satisfaction, and it is also a method very readily performed. If we fill a tube, closed at one end, with the urine, to which a little yeast has been added, invert it into a saucer filled with the same, and place the apparatus in a warm room, or at a temperature of about 80° Fahr., should sugar be present, fermentation will speedily ensue, and carbonic acid being generated, the urine will be depressed in the tube. We may readily ascertain the nature of the gas which is formed, and may also obtain the spirit from the urine so fermented, and thus be enabled to assert positively that the fermentation has been vinous in character.

Many other qualitative tests have been from time to time proposed, such as the formation of *torulæ* in diabetic urine, the crystallisation of the sugar when a little of the fluid has been allowed to evaporate upon a piece of glass or in a dish; and patients themselves have not unfrequently been led to the discovery of the affection under which they have laboured, by observing that their linen became stiff from the sugar contained in the urine; but when such phenomena are observed, the medical man should have no difficulty in diagnosing the case from even a superficial examination. It is only in cases in which the sugar exists in mere traces, that there can be any real difficulty; and I believe that when the potash, copper, and fermentation tests fail to demonstrate the existence of this principle in the urine, its presence is of little, if any, pathological importance.

It is sometimes of interest, and, in investigations as to the progress which the disease is making, and on the effects of treatment, of considerable value, to ascertain the amount of sugar which a patient passes; modifications of the fermentation test are often employed for this purpose; for example, if we ferment a given weight of urine, and allow the carbonic acid only to escape, which can readily be effected in a Fresenius's apparatus, the difference of weight of the apparatus before and after the process, will indicate the loss of carbonic acid, and from this we may deduce the amount of the sugar; this, however, requires a balance, and is often difficult in clinical investigations.

Another simpler process consists in almost filling a long graduated tube with mercury, then putting in an accurately measured quantity of urine with a portion of yeast, and inverting the tube into mercury in a cup or trough, the carbonic acid generated can be thus measured in the tube, allowance being made for pressure of mercury, and also for temperature; a grain of sugar evolves nearly a cubic inch of carbonic acid gas, about forty-five forty-sevenths. A convenient apparatus for this purpose is described by Dr. Pavy, in his paper in the Guy's Hospital Reports. These two methods I have very frequently employed in arriving at the numbers to which I shall have to allude when treating of the therapeutics of diabetes. The copper solutions may also be used for the quantitative determination of sugar; for example, if we have the solution of a given strength, we can make a volumetrical measurement, by finding how much of the urine is required to completely reduce a given quantity of the solution; or how much of the solution, a measured amount of the urine. This method is often used by continental chemists.

Lastly, I may mention a plan which has been proposed for determining sugar, both quantitatively and qualitatively; a method depending on the property which diabetic sugar possesses, of turning the plane of polarisation of a beam of polarised light. A description of the apparatus and of the method of using it would, however, take too much time for me to venture upon it in these lectures. A convenient instrument for the purpose is made by M. Dubosque of Paris.

Having laid before you a sketch of the principal methods of ascertaining the presence and amount of sugar in the urine, it may be well to state what quantities are at times eliminated by

different patients; for it is a point upon which I believe there is much misapprehension. In October 1853, the following were the quantities of urine, with the amounts of sugar voided during five days, by a diabetic patient, under my care; and the analyses were made for me by my friend Dr. Buchanan, then physician's assistant at the hospital, who continued the daily examinations for a period of many months.

Date.	Quantity.	Sp. gr.	Sugar per 3i in grains.	Sugar per diem. Avoirdupois.
Oct. 8	336 fl. oz.	1033	35.56	1 lb. 11 oz. 135.6 gr.
— 9	310 —	1034.4	31.1	1 — 8 — 381
— 10	350 —	1032	33.075	1 — 10 — 201
— 11	390 —	1031.1	32.06	1 — 12 — 253.4
— 12	385 —	1032	33.4	1 — 13 — 171.5

The patient at the time when these quantities were passed had been but a few days in the hospital, was taking the ordinary extra-full diet with a pint of porter, and, on account of the appetite being ravenous, probably some additional food procured from other inmates; no medicine was administered. You will observe that this patient, although having the disease in a confirmed state, was passing under 400 fluid ounces or 20 pints of urine, and that the specific gravity was not very high, varying from 1031 to 1034.4; many diabetic patients, therefore, probably pass daily a much larger quantity of saccharine matter. I have, in analysing the urine in several cases of this disease before the commencement of dietetic treatment, found the daily quantity of sugar to vary from about $\frac{1}{2}$ lb. to $1\frac{1}{2}$ lb. In some cases of saccharine urine without marked diuresis, the quantities have varied from about three or four ounces per diem to a drachm or so; sometimes little more than a trace has existed. If we fractionise the urine of the twenty-four hours, especially in cases where the total amount of sugar is small, a marked difference is found at different times of the day; the quantity is largest about three or four hours after a full meal, and smallest, when the secretion takes place at the time most remote from the influence of food; and I believe this holds good even when the diet is exclusively animal, containing therefore no sugar or amylaceous matters; this point, if fully established, would be of considerable importance in studying the pathology of this disease, as we shall find in our next lecture.

[To be continued.]

Reviews and Notices.

THE FUNCTIONS AND DISORDERS OF THE REPRODUCTIVE ORGANS.

By WILLIAM ACTON. Churchill: 1857. 8vo, pp. 106.

PHYSICAL incontinence has been grappled with and denounced by many lawgivers. The thunder of the Leviticus still reverberates. We read in history of the uncompromising enactments of the Puritans; and certain impracticable statutes yet remain in the law of this country. Vice is now to find a fresh antagonist in the cold unromantic arguments of the physiologist. It seems as though the instinct of license were doomed to be pursued remorselessly by a counter instinct of restriction.

The relations of sexuality, in respect of the organism alone, are so complicated that we may here disregard, and with advantage eliminate, its moral bearings. These are, however, by no means to be put out of sight and forgotten, but as gems to be laid aside, while the suitable mountings are being perfected. Physiology and pathology must analyse and explain the sexual phenomena, as chemistry has unravelled the phenomena of galvanic action. This must be accomplished before we can be provided with data upon which to proceed.

The correct interpretation of the sexual phenomena is a labour beset with many and peculiar difficulties. Mr. ACTON in the work under notice, has initiated the assault of these difficulties, and has opposed to them a firm and consistent courage. To the results of his own observations, Mr. Acton adds the testimony of Lallemand, Parise, and Roubaud. The organisations and instincts of some of the lower animals have been noted by him, to strengthen his deductions by the facts of comparative physiology; and in this he has been aided by

several high authorities. It is but fair to acknowledge the comprehensiveness of the idea with which Mr. Acton set himself to his task, however much we may differ from him in details. One is quite justified in saying that, hitherto, we have prudishly held aloof from any avowed and comprehensive consideration of the sexual relations. This puerile mock modesty is akin to that curious prejudice which so long consigned the physician-accoucheur to an inferior grade. It is time that timidity be cast aside, and that it be displaced by calm and philosophic inquiry. It would be ridiculous to urge the self-evident importance of correct and complete knowledge of the sexual relations of the organism. The systematic ignoring of the sexual difficulties by the profession at large has been the cause of an extraordinary evil which is only just beginning to be recognised. There exists a widely extended and thoroughly organised society of pretenders to medical knowledge, who first convert an unfortunate being into a hypochondriac, and then deprive him of everything he may possess. The machinery employed by these persons, their ramifications of espionage, and their atrocities, the astounding magnitude of the depredations effected by them, must soon see the light of day. The pitiable agonies of their numberless victims who can tell? The profession is, as we have just suggested, now only beginning to be awakened to a sense of its dereliction of function, and yet stands appalled at the monster which its supineness has allowed to be created.

It is not to be wondered at that the sufferers from functional disorders of the reproductive organs are to be found, for the most part, among the members of the more highly educated section of the community—those in whom the nervous system has reached a greater development, and whose sensitiveness practically magnifies any physical irritation into an insupportable goad. How early the seeds of manhood-suffering are strewn, we may perhaps learn from the following observations of Mr. Acton, who believes that much mischief originates in the too strong meat afforded to the young imagination in the writing of classical antiquity.

"When I see the sons of highly intellectual imaginative parents in possession of such books" (Lemprière's *Dictionary*, for example), "left to find out what the gratifications mean which they read of in the classics, I tremble for the consequences, feeling assured that, with childlike imitative powers, they will sooner or later wish to realise those sensations. The same fond parent, who relates with such delight the mocking powers or the imitative talent of his boy, little dreams, somewhat later, this precocious youth will probably be led by a similar impulse to test the truth of what he has read in books which have been allowed to stimulate his imagination. I speak advisedly, and at the suggestion of a large number of sufferers, who have confessed with regret that it was some such feeling as this, in entire ignorance of the consequences, that impelled them onwards in early life to commit the faults they subsequently blushed to acknowledge; and they have often expressed a wish that they could spare others the misery which they themselves had undergone."

In the management of the young, great caution and close observation are very necessary; but all to whom that duty may fall should combine with caution a thorough knowledge of the spring from whence the dangers originate which they strive to avert.

As, in the young, that, in ignorance, may be set down as a vicious tendency, which is in reality but a symptom of abnormal irritability, so in the elderly, uncontrollable amoroseness, while it subjects the sufferer to the risk of having a stigma attached to his name, and perhaps may lead him into the grasp of the law, should be judged of rather at a medical than at a legal bar.

There is no class of cases more difficult to deal with than such as disorders of the reproductive functions present, and the position of the conscientious medical adviser is most trying. Temper and firmness are as essential to success as technical skill and knowledge. The psychological element of suc-