quent repetition, it gains so firm a hold upon public credence, that to doubt is to be guilty of heretical scepticism.

So indisposed, or so incapable, to investigate any scientific matter are too many, that they will readily save themselves that trouble by indulging their credulity.

It has been stated in the outset, that the medico-legal importance of this question induced the writer to investigate its grounds. It has been shown, now that the story wants verification, that so far as information has been procurable, up to the present time, the assertion of the practice of arsenic-eating is totally destitute of all the elements of proof which are invariably demanded, and have always been produced, before statements assuming a scientific character can be received as trustworthy, or regarded as facts.

To urge, therefore, as probable, such a fabulous explanation of the presence of arsenic in a human body, is mere idle talk, and an affront to the common sense of a jury—a mere trick unworthy a highminded advocate. If, however, the plea should be put forth, it will, as in the late Burdon slow poisoning case, be blown to the winds, as utterly untenable and irrelevant to the question before the court. It is hoped, moreover, that medical witnesses will not again admit inferences from such unsupported statements, as having the same weight and value as those drawn from indisputable fact.

Not only was it desirable on medico-legal grounds to shew the fabulous character of this story, but it is also of the last importance thereby to warn those who are not competent to detect the fallacious and superficial nature of its evidence, that they must not dare to tamper with so virulent a poison, under a belief that it may be taken with impunity. Notwithstanding all that has been written about its power to bestow a healthy hue, and to heighten the charms of beauty, it still remains a potent poison;—as they may too late discover, if they suffer themselves to be led away by the specious misrepresentations of the lovers of the marvellous.

The conclusion drawn is, that the story of the Styrian arsenic-eaters is not only unsupported by adequate testimony, but is inconsistent, improbable, and utterly incredible.

Lectures

ON THE

STRUCTURE, FUNCTIONS, AND DISEASES OF THE SKIN.

DELIVERED AT THE BELFAST GENERAL HOSPITAL DURING THE SESSIONS, 1851-2 TO 1855-6 INCLUSIVE.

BY

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LECTURE I.

INTRODUCTORY.

GENTLEMEN,—In commencing on this occasion a series of lectures on the structure, functions, and diseases of the skin, I would wish you to comprehend the general points of interest with which the subject is invested. When entering upon any new field of inquiry, the mind desires to know something of its scope, general features, and relations—something of its advantages, and something of its nature. So satisfied, we commence our task with confidence and hope, and with an inspiring interest calculated at once to lighten our labours and ensure a profitable return.

The topic is interesting in a physiological point of view, as the study of a highly important organ, and also as a part of that general pathology of which man in suffering is the subject.

Considered essentially, the body is built up of tissues,

nervous matter, and blood, in different stages of its changes. These, variously combined, constitute the organs of the system. All organs are, therefore, complex apparatuses, supplied with blood-vessels, nerves, absorbents, and designed for some particular end in the economy. Thus, the brain and nervous system preside over the entire range of the phenomena of sensation and motion, and those hidden processes which constitute the different functions in all parts of the frame. There is no portion of the body, however minute, which is independent of this control. It is the great moving power (using the phrase in the most general sense,) and may be compared, amidst the complex machinery of a modern factory, to the agency of steam, which though elaborated in a comparatively small space, is felt in the extreme ramifications of the establishment. Again, we have the stomach, the small intestines, the liver, the pancreas, the spleen, and mesenteric glands—an association of organs designed to elaborate the chyle, or the formative component of the blood. We have the lungs, as the organs for the purification or depuration of the blood; and all these may be considered as necessary to the formation of healthy blood. Again, we have the kidneys and the large intestines and the skin, employed as agents for the removal of effete or noxious matters from the vital fluid—such as urea, carbon, and innutritious substances. The heart is the agent used for the circulation of the vital fluid from and to the capillaries of the general system, and from and to the lungs; while the muscles, bones, and joints constitute an associated apparatus for the double purpose of support and protection to the organs and of locomotion.

Reverting to the comparison already made, we might liken the digestive organs to the boiling apparatus; the heart and vessels to the conducting tubes—the lungs, liver, kidneys, large intestines, and skin, to the waste; and the muscles, bones, and joints, to the various frame-work of the machinery. Looking on the system in this light, we find that every organ has its appropriate use, not for the production of an isolated result, but for a common end. In this way, all organs are intimately connected. They are physically connected by blood-vessels and nerves, which traverse all portions of the frame; and they are mutually dependent in function. It is impossible to obstruct or interfere with the processes carried on in any one without implicating, sooner or later, those of the others. This sympathy is constant and universal; and in no instance can it be better illustrated than by a reference to the influence which the functions of the skin exercise in relation to other organs. I shall relate a few instances by way of example, which will place this matter in a sufficiently clear light.

“A young man of 20,” writes M. Rayer, “had been ill for two years. At first he suffered from colicky pains and diarrhoea. The pains soon changed their seat, and settled in the stomach. From this time forward he had great sensibility of the digestive region, which was increased by the presence of food in the stomach. He had attacks of vomiting, which, though they occurred but rarely at first, became at length so incessant that the patient was reduced to the lowest state of marasmus and debility. After two years of suffering, and the fruitless employment of a variety of remedies, the patient came to Paris to consult Professor Bourdier. His condition was now deplorable—emaciated in the extreme, his strength gone, and the stomach unable to bear even the smallest quantity of nourishment. M. Bourdier learned from the patient, first, that he had had a considerable boil on the inside of the right thigh, the progress of which was very slow. Secondly that the colic and diarrhoea had supervened shortly after the cicatrisation of this boil. Thirdly, that he had been relieved as often as a number of small ulcers had appeared between the toes of each foot. Fourthly, that the vomiting had, on the contrary, increased when these healed up. Acting on this information, M. Bourdier ordered a blister to be put on the seat of the old boil, and flour of mustard to be placed between the toes. Twelve hours after the application of these remedies, the vomiting ceased, and the appetite had

returned. The blister was kept open, and two months scarcely elapsed before the patient completely recovered." (p. 16, ed. 1835.)

The influence of the suppression of an eruption upon the cerebral functions is well marked in the following case:—

"In the year 1785, at Bassenheim, on the left bank of the Rhine, a corporal, about 21 years of age, of a spare and bilious temperament, labouring under a severe tettery affection, about four inches in diameter, situated on the fore and upper part of the right thigh, was received into hospital. The disease extended over a small part of the scrotum, and caused a violent itching there. M. Bouilland, chief surgeon of the hospital, employed a palliative and cautious treatment in the first instance; but, by-and-by, yielding to the importunities of the patient, who complained of the intolerable pruritis of the affected part, he gave his consent to the application of compresses, dipped in vinegar and water, to the seat of the disease. His surprise was great, when the next day, he found the man in a deplorable condition. The eruption had disappeared from the limb, but a state of somnolence, attended with stertorous breathing and complete absence of sensation and voluntary motion, supervened immediately afterwards. Every means was tried to bring back the disease: blisters were applied to the spot first affected, and measures calculated to subdue this apoplectic metastasis were exhausted in vain. The cerebral disease continued to advance unchecked, and the patient died on the third day." (p. 29.)

The following interesting relation, even if it stood alone, would be conclusive on the point;

"A child of a year old, after having exhibited all the symptoms of meningitis, sank into coma; the sutures separated, and the head became deformed. Dr. Gall, who saw this infant, decided that she had hydrocephalus, and pronounced an unfavourable prognosis. Derivatives to the intestinal canal had been unavailing; the size of the head was increasing; the child was pale and weak; the extremities were infiltrated; when a general scabby eruption appeared, and decided its fate. The fever ceased; the colour, which had been that of yellow wax, returned; and the child by degrees recovered a state of perfect health. The head, though still somewhat misshapen, is much less disproportioned than it was. The child, now 10 years of age, is robust, and possessed of all the physical powers of the strongest children at this age; but the intellect appears to be extremely moderate." (p. 36.)

Many similar examples might be given, all tending to show the close dependence of the cutaneous organ upon the condition of other parts of the body. Suffice it to state, in general terms, that the condition of the liver, the stomach, and intestines, and even the spleen, exercises an important influence in predisposing to cutaneous disease. Also the state of the nervous system; diseases of the lungs; the periods of menstruation, pregnancy, and lactation; the scrofulous and gouty diathesis, with many other diseased states, have been satisfactorily attested as causes of cutaneous maladies.

The study, therefore, of affections of the skin, is an important requisite to a right understanding of lesions in general.

2. In the second place, no one can deny that this branch of pathology is highly *attractive*, even to the young inquirer. Its phases appeal to the senses in all their varieties; and we can witness the whole chain of phenomena from the incipient flush of the eruption, to the faintest traces which it may leave behind. In this respect, it is eminently satisfactory, and excels all other descriptions of disease. And, further, in many instances, the order of the phenomena is so well established that we may predicate from this, as an index, the condition of the internal organs. With the aid of modern diagnostic powers, it is true, we can very frequently ascertain the exact morbid state of most of the organs affected in any given case; but, with all these aids, it is nearly impossible to detect the finer shades of the

incipient malady, or of the closing changes. On the other hand, all this occult knowledge is exposed, clear as day, even to the unaided vision; and the most exact account of the progress of cutaneous phenomena is accessible to the merest tyro. This, then, I consider, is an advantage of no mean significance, and should be, of itself, sufficient to captivate the comparatively unobservant.

3. The study of cutaneous diseases illustrates to a great extent the vast range of *etiology*. The importance of an extensive knowledge of the causation of diseases is admitted by all. It is a subject which admits of endless application; and though it will be considered here with special reference to cutaneous pathology, yet it will be found that what is true in reference to a part, as in this instance, is applicable to the whole. The diseases of the skin, in fact, illustrate all the principles of pathology. By a consideration of the effects of age and occupation, habits and regimen, hereditary and acquired diseases, climate and season, and other important agents, we shall find abundant opportunities for practically exemplifying these general principles. We shall observe that certain eruptions are peculiar to certain ages; such as strophulus and eczema in infancy, the exanthemata in childhood, acne and psoriasis in adolescence, ulcers, tumours, and prurigo in the mature and declining years,—we shall see that certain occupations almost invariably produce definite forms of eruption; as lichen and eczema, which occur to grocers, bakers, and washerwomen; we shall notice that intemperance is frequently indicated by rosacea, and that erythema and urticaria attend upon certain irregularities in diet;—that scrofulous parents, and the syphilitic constitution, will be associated with these diseases in the child; that the heat of summer and the cold of winter may render some systems obnoxious to lichen and porrigo; and lastly, we shall observe in the diversities of climate a corresponding variety in the eruptions endemic in certain localities, as the lichen of the tropics, the plague of the East, the *pellagra* of Italy, the *plica* of Poland, the *elephantiasis* of the West Indies. These and similar etiological facts, when properly considered, must give the inquiring mind many points of profitable reflection in the study of disease in general, as well as the subject under discussion.

4. Viewed as a part of general pathology, diseases of the skin have acquired a new interest from the brighter light which has been shed upon this subject within the last few years. The happy discovery of the *growth of tissues by organic cells* is illustrated in a remarkably clear and satisfactory manner by the development of the epidermis; and the various diseases are sufficient illustrations of altered nutrition, of the processes of inflammation, of congenital malformations, and of heterogeneous growths. In short, the entire domain of modern pathology is opened up to the mind by a study of cutaneous diseases alone. In this point of view, therefore, my theme has abundant claims upon your attention.

5. In the science of general *therapeutics* and the prevention of disease, the study and practice of cutaneous diseases has been instrumental in establishing some of the most important principles on record. To them we owe our knowledge of the endless applications of that important agent, counter-irritation, by which the otherwise fatal termination of chronic inflammations, and a host of protracted maladies, may be, in a comparatively brief period, arrested; and, when I further mention that it is to them the world is indebted for the triumphant discovery of the immortal Jenner, by which it is presumed millions of the human race have been preserved from childhood to mature years, it is impossible to say more in estimation of the value of this particular study. But I cannot omit alluding to another feature, which in my mind enhances its value in a remarkable degree. I refer to the impetus which has been given by the study and treatment of cutaneous diseases to diffuse sound notions with regard to those very important sanitary provisions, bathing, clothing, and exercise. You are all aware how much the public mind, and, I wish I could add, that of the profession, has been engrossed with this subject

of late years; and it is high time that its importance should be valued aright by those who are alone capable of giving a proper interpretation. The public are becoming impressed with the advantages of acting upon the system through the cutaneous surface; and, disgusted with the previously established means in the hands of physicians, they have plunged at once into the extravagances of hydropathy and homœopathy, to the imminent danger of their health and lives, and, what is of more importance, with the risk of completely unsettling the true value of the agents above mentioned. These dangers can only be arrested by the firm stand of the profession, who would do well to carry the principles which they inculcate in cutaneous therapeutics into more general use in other diseases, and generally in their prevention. It is only by a thorough knowledge of the functions of the skin, and the effects of agents applied thereto, that we are enabled to prescribe rules and regimen with success; and also it can only be in this manner that a proper use of the application of water, in any of its forms, or of friction, or clothing, or exercise, can be determined. Thus, then, in the regulation of our own practice, as well as the guidance of the public mind, we see how the study in which we are about to engage may be made of incalculable service; and I consider that this forms not the least interesting aspect in which it can be viewed.

6. I would lastly notice one other advantage which the study of cutaneous diseases must impart to the learner. It is that of ready and close observation, and a *facility of diagnosis*. Under no other circumstances can these requisites to the intelligent practitioner be so quickly or so fully acquired. The opportunities for the study are abundant. The minutest shades of difference attract immediate attention; and common industry and perseverance are alone essential to complete the task. But I consider this advantage one to be eagerly sought after, not for the mere purpose of distinguishing at a glance this eruption from that, but as a means of training the mind, so as to fit it peculiarly for practice; and also as a sure safeguard against ignorance and carelessness, and that routine which characterises the practice of the practitioner of limited information. Progress in our science, or fame in the estimation of the public, alike arise from intelligent experience; and this, though it may not require, as in the olden age, a lifetime to attain, must rest upon a rational and judicious observation. It should, then, be your aim, if you desire to prosper in the world, to cultivate this powerful faculty; and you can do so most readily, and with a never-fading interest, by a steady devotion to the study of cutaneous pathology.

These are some of the points of view, gentlemen, in which you can contemplate this interesting study. They should, I think, be sufficient to induce you to enter upon the task with a full determination to master the entire subject. You may be fully assured that the necessary exertion will be doubly repaid by the practical knowledge which you must simultaneously acquire of the relations of other and highly important diseases of organs much more vital than the skin. Did I conceive that your attendance here would result in a mere topical idea of the external characters of cutaneous diseases—though this, I grant you, would be a not insignificant acquisition—then would I deem the time unworthily occupied. But I anticipate better things from a due exercise of your inquiring minds. I trust you will study the disease, not for itself alone, but as a part of that vast pathological range which the practitioner is called upon to treat. Study, then, this subject relatively as well as individually; and depend upon it you will lay the only real foundation for practical results in pathology, and for valuable progress in managing and preventing suffering; which is the end and aim of the enlightened physician.

[To be continued.]

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SOURCES OF ERROR IN THE STUDY OF MEDICINE.

ALTHOUGH we do not professedly give a "Student's Number" of the ASSOCIATION MEDICAL JOURNAL, the near approach of the Medical Session suggests to us that a few words of counsel may now be appropriately given to those who, having reinvigorated their bodily and mental powers by the vacation now terminating, are about to return to their studies, and to increase the stores of that knowledge which shall guide them in the performance of the responsible duties to which they have committed themselves; as well as to those who will, for the first time, be entering on the same path.

But in attempting to offer counsel to students of medicine, a crowd of topics force themselves on the mind, with the whole of which it would be difficult to deal fully at once. Prominent among these are the moral responsibility of the student; the weight of the duties he has pledged himself to perform; his obligations to himself, to his neighbour, to mankind in general, to the Deity. On these, however important subjects, we shall not here enlarge. Many of those who undertake the duty of opening the session at the various medical schools, will doubtless do full justice to them; and further, it is rather from the example of the steady, diligent, conscientious student, that we would expect good to result, than from pages of precept. Good example has often prevailed where precept has failed.

Leaving then the consideration of the more catholic duties of the student; forbearing also to comment on the grandeur of those mind-ennobling studies which he has to follow; we will proceed to offer a few remarks on the errors which impede his progress in the study of medicine as a science, and to point out how he may best avoid them.

Medicine is but a department of science. But what is science? It is the knowledge of that which exists—of truth. The student of medicine, then, like the student of any other science, is a searcher after truth; truth, too, intimately connected with the well-being of mankind. Most important is it then to know the path which leads to truth; to be aware of that which leads to error.

In proportion as the facts of a science are imperfect in number, and especially in connexion, so will be the amount of error which impedes that science in its progress towards perfection. The human mind, impatient for a grand result, in general cannot wait patiently to add facts to facts, to observe those which best harmonise with each other, and to join them in their proper causal relations; instead of this, from a few often imperfectly observed and disconnected facts—possibly not facts at all—the most general deductions are drawn; and doctrines, which have no ground but the wayward imagination of their propounders, for a time bewitch the followers of science with their surpassing beauty. This is precisely what has happened in medicine; with much that is solid, there is a vast deal of misobserved