

THURSDAY, OCTOBER 1, 1874

## HINTS ON MEDICAL STUDIES

FEW of those who to-day commence their medical education will be able fully to realise what would have been their position if they had done the same some fifty years or more ago, instead of now. After an apprenticeship of from three to five years to a country practitioner, during which time, at the expense of their general education, they would have been employed in dispensing medicines, and other less honourable duties, they would have entered on their medical studies, properly so called, possessing a certain empirical acquaintance with a few of the details of professional life, which might however, have been obtained in an infinitely shorter time after the principles of the subject had been mastered.

This state of things is fortunately past. The pupil now leaves school, having had a more liberal general training, conducted mostly during the time which used to be wasted in apprenticeship, and after being tested by a commencing examination in Latin, arithmetic, &c., he immediately begins his special studies at a recognised college and hospital. At the outset several questions respecting the direction that his work has to take, suggest themselves, which are only partially answered in the calendars of the different examining bodies, and on which there is considerable diversity of opinion amongst teachers and the profession generally. One of the most important of these refers to the question whether or not it is advisable to commence clinical work at once, or to wait until some knowledge of anatomy and physiology has been obtained. As the medical education consists of two parts, a theoretical and a practical, one conducted in the lecture-theatre and the dissecting-room, the other in the wards, out-patient department, and post-mortem theatre of the hospital: is it wise to pursue these two independent courses simultaneously, and if not, which should have the preference? This question is not difficult to answer, for it is evident that attendance in the wards of the hospital during the first medical session must very much resemble the justly disparaged period of apprenticeship. Like it, the knowledge acquired will be almost entirely empirical, and therefore so much the less useful; for the numerous facts which the student is learning from the classes he is attending at this early period, must for some time be so crudely associated in his mind that he will experience difficulty enough in retaining them there at all, let alone having to apply them to previously unexpected instances. We therefore would advise that the first winter session at least should be entirely devoted to lecture-work and the dissecting-room, and that the wards should not be systematically visited until the following summer. Then, even, as *Materia Medica* is not a winter subject, but little can be learnt with reference to treatment, except in surgery; experience in diagnosis must consequently be the only object kept in view. Afterwards, as much time as can be spared may be devoted to clinical work.

Another question which requires an answer refers to the number of subjects which ought to be embraced in the necessary course of study. Without wishing at

present to enter into a discussion as to whether the vital force which is at work in the living body is anything *sui generis*, or only an elaboration of other well-known forces which are manifested by inorganic matter, there is no doubt that those physiological phenomena which are within the reach of complete human comprehension are all capable of being represented as problems of pure physics. Such being the case, the great importance to all thinking students of medicine, of a knowledge of the fundamental properties of matter, must be self-evident. Some may have had the opportunity of learning a little about mechanics, heat, light, and electricity at school, but most will be sadly ignorant on these subjects; and being so, when they have advanced sufficiently far in physiological and pathological investigation to appreciate the enormous fields for work which they open up, they will find no greater stumbling-block to their further progress than their imperfect training in the science of physics; it will act as a barrier against sound original work in all directions, and prevent many an able man from doing full justice to his mental capacities.

It is this unsoundness of the physical basis of physiology which maintains the considerable interval between physiologists and physicists; which makes it necessary to have physiological and physical laboratories as separate institutions instead of as different departments of the same establishment, and which allows flagrant physical inaccuracies in physiological investigations to be stated and restated under the approving sanction of those who ought to know better. What can horrify a pure physicist so much at the present state of physiological knowledge as, when he reads in a recently published work by one who is considered to be the British representative of the subject on which he treats, to learn that in the flight of birds the wings strike downwards and forwards; and in another work, by another prominent author, that the aortic valves, which correspond to the secondary valve of an ordinary pump, close *during* the contraction of the ventricles of the heart? Similarly, the phenomena of electrotonus, in the eyes of a physicist, have as little to do with the true nerve-current as the spark obtained from a Leyden jar has with that circulating in an ordinary electric telegraph cable. These instances, and many others which might be adduced, all point to the importance of a thorough knowledge of physics to the student of medicine.

Second only to physics, as a collateral part of medical education, is zoology. Many, however, would place botany next. No doubt a knowledge of botany is essential to a thorough comprehension of the details of *Materia Medica*; nevertheless, for the prosecution of work bearing on medicine proper, an acquaintance with the structure of animals is more important than that of plants. The latter may, most of it, be left to the pharmaceutical chemist, and be neglected by the physician. Very little is gained by the medical student when he learns that podophyllin is obtained from the rhizome of a ranunculaceous plant, or even that the natural order Solanaceæ has been divided up in a manner which physiological action justifies: but that the cæcum of the intestine is absent in many mammalia, and that it is of very much larger proportionate size in some than in man, must have an important bearing on our conception of the function of that organ. Many other similar instances might be given,

all proving the importance of comparative anatomy in a medical point of view; and it is almost certain that before long that science will have a more prominent position in medical education than it at the present time possesses.

Those who have no other aspirations than to follow the routine practice of their profession immediately their few years of education are completed, will no doubt ignore the value of the extended curriculum we advocate: they imagine that it does not conduce to more accurate diagnosis or more correct treatment. This view is a short-sighted one, to say the least; for though the most able theorist may, by chance, be a bad practical physician or surgeon, yet the good he does by his higher work is insuperably greater in the long run than the immediate relief of individual cases. It is by the progress that is made by the profession in obtaining the mastery of disease that its position is maintained in society generally, and this progress is due much more to the theoretical chemist and physiologist than to the successful practitioner who simply follows the ordinary routine of his calling.

#### NOMENCLATURE OF DISEASES

*Nomenclature of Diseases, prepared for the use of the Medical Officers of the United States Marine Hospital Service, by the Supervising Surgeon. (Washington: 1874).*

THE preparation of this volume by Dr. Woodworth, supervising surgeon, has consisted in adopting, with some important omissions and unimportant transpositions, a literal transcript of the original "Nomenclature of Diseases" drawn up by a joint committee appointed by the Royal College of Physicians of London, of which Dr. Sibson was the editing secretary.

The original work received a modified sanction from the British Government, inasmuch as by the remarkable liberality of Mr. Lowe, then Chancellor of the Exchequer, money enough was provided to print off a large edition, and transmit a copy gratis to every member of the medical profession in Great Britain and Ireland. The further diffusion of the work in the United States by Dr. Woodworth is a thing for which the profession owes that gentleman hearty thanks. The work, indeed, seems to be more authoritative on that side of the Atlantic than on this; for the statistics of mortality for the ninth census of the United States were made up in accordance with its arrangement. This extension of a uniform nomenclature is itself, apart from the merits of the work, an evident great gain to science.

It is proposed to give the book a decennial revision; but while revision of some kind is periodically necessary, we do not anticipate that, after the work is thoroughly matured, it will be required above once in a generation,—three or four times in a century.

In the meantime, the book is in a somewhat imperfect state, many inaccuracies having been pointed out in a report upon it by the Edinburgh College of Physicians. The correction of such errors and the bringing of the work to the level of the present state of medical science will make it mature for the time being. But we hope that a new generation of medical men will find it necessary

to revise it; not to correct common errors, but to adapt it to the then advanced state of medical science. We are doubtful as to the propriety of attempting work of this kind by a mixed committee. The committee should be of the only kind Dr. Chalmers could tolerate—a committee of one! only the one should have power to call in aid. The work of Linnæus or of Jussieu could not have been done by a committee.

A good nomenclature of diseases will inevitably represent the science of the day. According as science advances, so will the nomenclature and arrangement be more and more natural. The profession of medicine is to be congratulated on the felt want of a nomenclature temporarily fixed, and on the evidence this work affords of its generous ambition to rise above a mere nosology, to something like a natural pathological arrangement.

The wide diffusion of a book like this in the medical profession, besides its own immediate utility, is sure to exercise a very beneficial and much wanted scientific influence. The looseness of much professional writing will be diminished and precision encouraged. If medical terms are well defined, writers will naturally become more careful in their use of them. At present, medical writing is infested not only with ill-defined terms but indefinite description. How often do we see such phrases as "once or twice," when we should have "once" or "twice." We might give many examples of this looseness for which we tolerate no excuse; but there is a looseness arising from the imperfection of medical science which we must meantime tolerate. Good and precise definition of terms only becomes possible when we know the properties or peculiarities of what is to be defined, and medicine is as yet in too empirical a state for satisfactory definitions. That subdivision of it which is most advanced—pathological anatomy—illustrates well the growth of precision of terminology as advancing knowledge permits and demands it, definition and discovery going hand in hand.

The same branch of medicine affords the best illustration of an admirable struggle after a good nomenclature, but even for this branch there has not as yet arisen a Tournefort to produce, if not temporary unanimity, at least temporary union in regard to nomenclature—a deficiency which, however much to be deplored as a cause of confusion and error, implies blame to no one. If in morbid anatomy we have no established nomenclature, how can we expect it in the nosology? This department of medical nomenclature we regard as being meantime best left in what may be called its popular state, such names as scarlatina, erysipelas, cholera, thrush, being better than any that could be based on our present imperfect knowledge of these diseases. But although this may be so now, there is good reason to expect the day when good descriptive names will be found for all these diseases—names which will suggest to the instructed an epitome of what is known regarding them.

Such suggestive names cannot be, however, without a well-matured classification. At present there are several very natural but isolated classes of diseases which form good samples of what is wanted—zymotic diseases, parasitic diseases, mechanical injuries—but for the most part we have a disjointed catalogue rather than a classification. The attainment of a complete classification will be a great step, an index of progress and an aid to it; but it