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AMONG the graduates of the University of Glasgow who have become benefactors of their Alma Mater there is, perhaps, not one who more deserves the gratitude of his successors than the man who bequeathed to her the great museum and library which bears his name. William Hunter began his museum as a collection of anatomical and pathological preparations designed to supplement his dissecting room in the teaching of anatomy, which in those days included pathology. Years after, when he was the most successful practitioner of midwifery in London, he extended the plan of his museum, and collected anything and everything that might add to its usefulness in the diffusion of knowledge and culture.

Thus it came to embrace in addition objects of art, archæology, natural history, geology, mineralogy; it became, in fact, more than a museum for a medical school; he made it a university museum, and such a one as was unrivalled in its day by any other in Britain.

At first, doubtless, he collected for his own pleasure, but later it was certainly with a view to one day bequeathing it to trustees who might use it for the public benefit, and he chose the members of his old University as his trustees.

Of late years, however, the usefulness of the museum has been much impaired by the fact that the catalogues of the collections had become, through time and the number of additions

which had been made, both out of date and inadequate. Happily this fault has now for some years been in process of rectification, by the compilation and publication of new catalogues of various departments under the supervision of the keeper, Professor Young. Catalogues of part of the collection of coins¹ and of the anatomical and pathological preparations² have now been published; and catalogues of the library, both printed works and MSS., have been prepared, but cannot be printed in the meantime for want of funds.

The present article has been written at the request of the editors of the Glasgow Hospital Reports, who felt that an account of the overhauling and recataloguing of the Anatomical and Pathological Collection was a proper subject for their volume; that the more widely it was known that something new was being done for the museum in general the better it would be for that institution, and the more likely it was to be useful. Further, that this report would reach many graduates of the University and others whom the catalogues would not reach, and who, indeed, might not otherwise hear anything about this matter.

More particularly the present opportunity is taken to give what is not given in the catalogue of the anatomical and pathological preparations, viz., a general account of what that section of the museum contains, to indicate some of the points of special interest or value about it, and lastly a few things that might be done to increase its usefulness as a collection for teaching and for reference in scientific research. A full account of the work which, in the last five years, has been done in the way of overhauling and recataloguing the anatomical and pathological collection has been given in the preface to the recently issued catalogue of that section of the museum. A biography of William Hunter and a history of the origin and formation of his museum, and its relations to his written works, are also contained in the historical introduction.

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The overhauling has meant remounting nearly all the preparations, and mounting many which had never been mounted before. It was no small labour; nor was the disturbing of the old preparations a matter to be undertaken lightly, but it has been managed without mishap, and it has greatly improved the appearance of the collection.

All the new catalogues are founded on those that were prepared during the lifetime of William Hunter, either by himself or by others working under his direction. The old *ms.* catalogue of the anatomical collection was published by the University in 1841; copies of the volume are not rare; it was sold at a shilling, and constituted a sort of perpetual admission ticket to the museum. In the new catalogue all that appeared to be valuable in the old has been embodied. At the same time great additions have been made in the way of altogether new or of more detailed descriptions, records of microscopic examinations, and references to and extracts from literature connected with the preparations—principally the writings of Hunter himself, but also those of John Hunter, Hewson, Cruikshank, and many others of less note. The collection has also been completely rearranged. The old order, where there was any attempt at order, was unsatisfactory; the rearrangement, which is naturally more or less provisional and temporary, brings the order of the collection into harmony with that in which the subjects illustrated are usually treated now; in this way, with the aid of the table of contents and index, it should be easy to find specimens of any kind that a person might wish to consult, or to say where a new specimen should be inserted. The museum copies are interleaved, so that descriptions of new preparations may be inserted as they are obtained. Thus, in these volumes there will always be descriptions of all the preparations in the collection, and the issue of a supplement when a sufficient number of these should have accumulated would be at any time a very simple matter.

The collection as now laid out contains about three thousand three hundred preparations—a collection of moderate size; but it is the quality of the preparations that is most remarkable. Nearly all of them have been beautifully finished, artistically mounted, and really illustrate what they were intended to show.

Further, although so many years have elapsed since they were made, the Hunterian preparations are as good as ever, and (this applies more particularly to the injected ones) as good as can be made now and a great deal better than we will give the time to make now. Such preparations do not bulk so largely in the teaching of anatomy and pathology as they did in Hunter's day, but they have still their sphere. The majority of them, used as he directed they should be used, are as valuable now as they ever were. The interpretation of the appearances which they show may change; they themselves are so "exactly Nature herself" that they can never get out of date. A better foundation for a great anatomical and pathological museum could not be desired.

As to the value of anatomical preparations there is considerable difference of opinion. William Hunter has left on record his ideas of their value, how they should be used, and the limitations of their usefulness.¹ The man who first made it possible for a British student to practise dissection of the human body without betaking himself to France or Germany, was not likely to imagine that preparations could take the place of the fresh subject; he taught his students that they must take the knife in their hands and learn to use it for themselves. "Preparations should not be used as substitutes for a body; but supplementally, to demonstrate such circumstances clearly as are intricate, confused, or invisible in the fresh subject. And a demonstrator who makes fine preparations should be very much upon his guard; otherwise he will be apt to make an abuse of preparations; he will insensibly contract a partiality to that in which he excels; the elegance of preparations is delusive with students; the more they are used, there will be less expense and trouble with fresh subjects." Properly used he had no doubt as to their usefulness, and "they serve two purposes, chiefly, to wit, the preservation of uncommon things, and the preservation of such things as required considerable labour to anatomize them so as to show their structure

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distinctly. Of the first sort are the pregnant uterus, diseases, parts of singular conformation, etc. Of the second class are preparations of the ear, the eye, and, in general, such as show the very fine and delicate parts of the body, which we call the *minutiae of anatomy*."

By far the greatest part of the collection consists of wet preparations mounted in spirit. There are about three hundred mounted by a process which has almost disappeared nowadays, viz., dried and mounted in turpentine, which makes them transparent. This process was very useful for showing the vessels (blood or lymphatic) or ducts of injected organs, or such things as centres of ossification. There are nearly four hundred dry preparations, chiefly diseased bones, in jars, and a few large plaster of Paris casts, which are particularly interesting, as they were taken from the actual dissections which are figured in Hunter's "*Gravid Uterus*." There is also a fine set of embryological wax models, left to the museum by the late Dr. Allen Thomson. About sixteen hundred of the preparations may be classed as anatomical, and about the same number as pathological. Among the former division the series referred to in the passage quoted above may be mentioned as particularly good.

It is one of the special features of the collection that so many of the preparations are injected. The art of injecting—filling the vessels, whether blood-vessels, lymphatics, or ducts, with some fluid charged with fine pigment which would bring them clearly into view, either as an experiment in itself or as a preliminary to dissection—was one of the principal methods by which the sciences of anatomy and physiology were being advanced in Hunter's time. It can hardly be called a lost art, but it has been to a large extent laid aside in favour of other methods of research. For that purpose the methods by which William Hunter made his discoveries are worked out, or nearly so; but for teaching the elementary and at the same time fundamental part of anatomy—naked-eye anatomy—his preparations retain all their old value. To appreciate the advantages of injections so fine that they could reach the capillaries for preserving colour and fulness and the rounded outlines of soft and shrinking struc-

tures, one need only examine the beautiful specimens of the throat and nose or of the skin.

There is also a series which has quite a special value of its own. The lymphatic system can hardly be studied in the dissecting room on account of the impossibility, except in certain rare cases of disease, of making out anything beyond the glands, and one or two of the main vessels, since the demonstration of them involves injection by processes different from and more difficult than those used to exhibit the blood-vessels. We have in the Hunterian collection most of the original preparations by which the distribution of the lymphatic system was traced out by Hewson and Cruikshank—a most instructive series.

There is not much need for additions to the anatomical collection on the original lines, but what might with great advantage be added is a good set of the viscera prepared by the new formalin-glycerine process, which preserves the natural appearances so well.

The pathological division of the collection is not quite so satisfactory as the anatomical in one respect; many of the series are very weak in what may be termed the common objects of the *post-mortem* room, *e.g.*, there is only one preparation of secondary cancer of the liver. On the other hand, it contains a very considerable number of rarities. In particular there are many preparations which could not be obtained nowadays, and which we hope will never be obtainable again. For example, over a dozen preparations of septic osteomyelitis in amputation stumps, or in compound fractures, remind us of a time when sepsis was the rule after wounds, whether accidental or due to operation. There are also dozens of specimens of acute suppurative osteomyelitis which had not been operated upon. In those days it was the rule to leave them as far as possible to nature, and the preparations in the Hunterian Museum tell a tale of suppuration, the duration of which was limited only by the number of years the patient could stand it. It is a pity that we have the history of so few of these preparations.

The collection of calculi and concretions runs to about 330; for the most part they are of the common varieties,

but a number of them are exceedingly interesting. The series of monstrosities, though not very large, is very representative; it contains examples of nearly all the principal types of monstrosity. Comparatively few of them had been dissected, and as a rule no further dissection has been done except what was absolutely necessary for determining generally the nature of the malformation; but, in the future, specimens, after careful comparison with the undissected ones, might be dissected, so that the internal anatomy, as well as the external form, might be illustrated.

Lastly comes what is quite the finest part of the collection, viz., the obstetrical and gynaecological section. This is partly pathological, partly anatomical; it contains nearly six hundred preparations. The specimens illustrating the anatomy of normal utero-gestation are magnificent. A considerable number of them have been identified as the originals of the engravings in William Hunter's *Anatomy of the Human Gravid Uterus*, which is still the leading work of its kind in that department. There is hardly room for improvement in this particular series, and fresh examples of normal gestation or young abortions, instead of being turned into preparations, should be used for microscopical research after comparison with the preparations already here. In the two series, abnormalities and diseases connected with pregnancy and diseases of the female genital organs, there is ample room for additions. Through the kindness of various gentlemen a number have already been made, and more are particularly desired.

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form permanent tangible records of interesting cases, which it is most important to preserve; but only too frequently the difficulty of mounting them satisfactorily, and of keeping them and looking after them in the private house of a busy man, leads to their being spoilt or lost; whereas, were they placed in the museum of the University they would be well cared for, and would be always available for reference or inspection by workers on kindred subjects. A short *resumé* of the paper and the reference naturally would appear in the catalogue. Such preparations form a considerable, and perhaps the most valuable, part of all great pathological museums. It is an honour to a preparation to be admitted to the company of those made by the hands of Dr. William Hunter.

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