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THE MEDICAL COLLECTIONS AT THE UNIVERSITY OF GLASGOW

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SUMMARY

The medical and other collections in the University of Glasgow have at their core the generous bequest of Dr William Hunter (1718 – 1783), a local man who rose to become an internationally renowned anatomist and obstetrician. The University does not have a Medical Museum as such but an Anatomy Museum, a Zoology Museum, a Pathology Collection, medical displays in the main halls of the Hunterian Museum in the Gilbert Scott Building and a rich collection of antiquarian medical books and archives as well as contemporary libraries. The Hunterian Collection, since its inauguration at the University of Glasgow in 1807, has engendered a spirit of diversity and scholarship that embraces many disciplines across the campus. The Hunterian Museum was the first public museum in Scotland and service to the local, national and international communities and response to their academic needs is very much at heart of its function today.

Introduction

The medical collections in the University of Glasgow, broadly described, comprise tissue specimens, instruments and equipment, personalia, teaching models, fine books, and archives. Much of this material is part of the Hunterian Museum and Art Gallery or in the care of the Department of Special Collections at the Glasgow University

Key words: William Hunter - Hunterian Museum – Glasgow - Medical collections

Library. Physically, the collections are spread over a number of locations: the Hunterian Museum in the Gilbert Scott Building (plus reserve collections in Museum stores), the Anatomy Museum in the Thomson Building, the Zoology Museum in the Graham Kerr Building, all on the Main Campus, and the Pathology Department at Glasgow Royal Infirmary, in the centre of the city. The Special Collections Department of the University Library houses the extensive collection of antiquarian medical books and manuscripts, and the University Archives holds a range of documents related to medical staff, research and teaching.
Modern medical books and journals are available in the Life Sciences and Short Loan Collections at the Glasgow University Library. Contemporary dental books are available at the James Ireland Library at the Glasgow Dental School, part of the University of Glasgow. On-line computer facilities with access to medical material are widely available across the campus including the library facilities, and the Anatomy and Zoology Museums and at the Medical School Building. The Medical School has its own collection of up-to-date textbooks for medical student use.

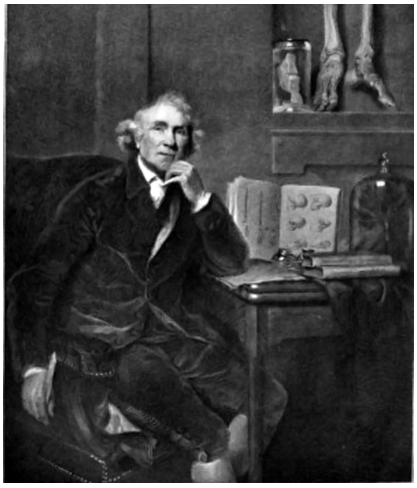

Fig. 1 - Portrait of William Hunter by Sir Joshua Reynolds, founder of the Glasgow University Museum Collections (Engraved by William Sharp). The specimen of the pregnant uterus illustrated in the painting remains in the Anatomy Collection.

Background

The Museum Collection and Library Special Collection have their origins in the bequest of Dr William Hunter (1718 – 1783) (Fig.1). William Hunter is well-remembered internationally as a pioneer 18th Century anatomist and obstetrician. He was Physician Extra-ordinary to Queen Charlotte, consort of George III, and was the leading British anatomy teacher of his day, being the proprietor of the famous School of Anatomy on Great Windmill Street, London. Another achievement was his appointment as the first Professor of Anatomy at the Royal Academy. Hunter was born and brought up at East Kilbride just outside Glasgow and attended the University of Glasgow in the 1730s.

William Hunter moved to London in 1741, to an apprenticeship with and the patronage of his fellow Scot, Dr James Douglas (c. 1675 - 1742). He remained in the Douglas household after his mentor's death and started to teach Anatomy in his own right from 1746. Initially, he probably had the use of Douglas's own preparations as illustrative material but almost immediately he employed an assistant to help him teach and presumably to prepare specimens. The acquisition of cadavers for dissection was notoriously difficult at this time, relying on the efforts of body snatchers in the covert employment of the anatomists. After gaining experience in Paris and Leiden, Hunter taught in the 'Parisian' manner, i.e. dissection by the students themselves rather than reliance on a demonstration by the lecturer. Hunter built up his museum collection of preparations over the next 30 or more years with the aid of a series of assistants including his own younger brother, later the hugely successful and celebrated surgeon and scientist, John Hunter (1728 – 1793). Hunter also bought at auctions and acquired specimens from contemporary medical collectors in this way. He is known to have bought specimens at the sale of Dr Richard Mead's collection. Some specimens from William Cheselden's collection are

identified in the collection today although it is not known how Hunter acquired them.

Historical use of the collection

William Hunter was very aware of the importance of his medical collections, commenting

> *I have collected such an anatomical apparatus as was never brought together in any age or country* [1].

He instructed his students to handle the preparations carefully and

> *…they will only be looked at: no experiment is to be made by pressing or bending, to try their strength or texture…..Many of them are the result of patient labour and are not easily restored…*[2]

In the last years of Hunter's life, his nephew Matthew Baillie joined him as an assistant. When Hunter died in 1783, Baillie along with William Cruikshank, Hunter's principal assistant since 1771, inherited the anatomy school as a going concern. Though Hunter had bequeathed his collections to the University of Glasgow, Baillie and Cruikshank were given the use of them for 30 years after his death or until they gave up teaching anatomy. Baillie himself added to the collection and several specimens present in the collection today are illustrated in Baillie's great work *'The Morbid Anatomy of some of the Most Important Parts of the Human Body*'[3].

Having cultivated William's goodwill for some years prior, the University of Glasgow was delighted to receive the bequest of his collections. The extensive anatomical collection was most welcome in the teaching of students. As well as the gift of his collections, William Hunter left the University of Glasgow a generous sum of money to fund the construction of a building suitable to house and display them. A handsome neo-classical 'temple' designed by

William Stark was erected in the grounds of the old College (as the University was known). The collections were transported from London and installed, and the Hunterian Museum opened its doors as the first public museum in Scotland in 1807. Shortly after, the University set up a committee to superintend the use of the museum and insisted that

> *the bequest was given to the College [University] not merely to be a temporary and perishable shew (sic) but for the advancement of Science…*[4]

It was agreed that specimens for the teaching of midwifery, anatomy and natural history would be given out at specific times of day. The teaching of anatomy at the University was conducted close to the museum and professors could take specimens there for student use. A letter written in 1809 by John Burns, the professor of Surgery at Glasgow to Benjamin Rush, the American physician, statesman and a former student of Hunter, comments that in the preceding few years the number of medical students at the University doubled to 200, drawn by the attractions of the museum collection in teaching[5]. The use of the collection seems to have taken a downturn towards the middle of the 19th century with student use restricted for fear of damage to the specimens. The museum generally seems to have fallen into a state of neglect over this time after the initial fanfare and celebration that attended its opening years.

By 1840, the Museum Trustees instructed that no professor was allowed to remove any specimens whatsoever from the museum and the specimens were to be cased behind trellis work. At the same time, however, a printed catalogue of the collection, based on William Hunter's own manuscript catalogue, was made available to medical students at a small cost and with it went the right to free admission to the Anatomical Room where the specimens were displayed. In 1849, Allen Thomson, one of Glasgow's great 19th century anatomists,

suggested to the Trustees that he lecture in the museum and be granted permission to 'exhibit some specimens' in an adjacent room.
In the 1870's the University abandoned its polluted, dirty and over-crowded premises in the city centre and moved to Gilmorehill, the present site, then a country estate to the west of Glasgow. The entire Hunterian collection was re-housed in two fine galleries on the upper floors of the grand Neo-Gothic George Gilbert Scott building that is the heart of the campus today.

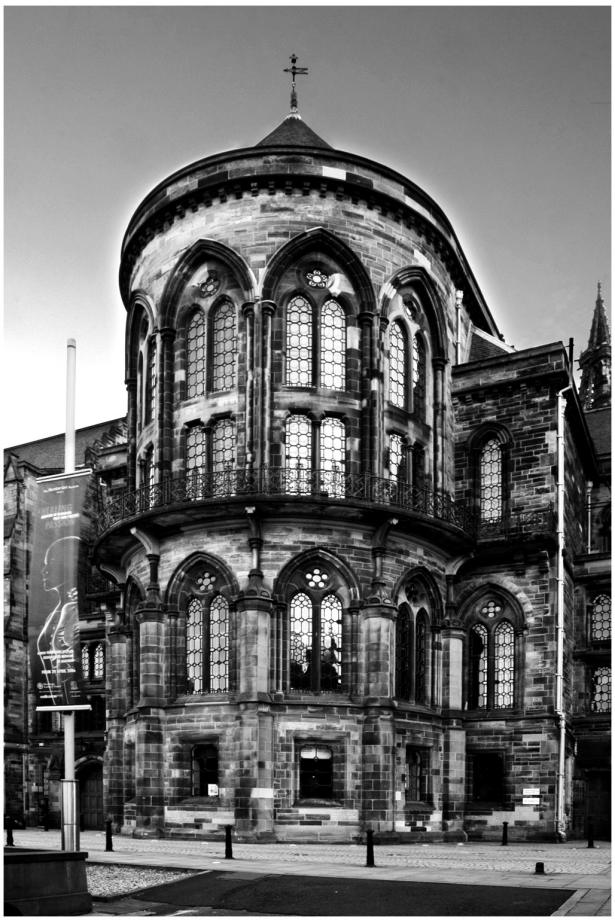

Fig. 2 - The Main Building at Glasgow University designed by Sir George Gilbert Scott, the 'apse' being the rear part of the Entrance Gallery in the Museum.

The Museum was unavailable to visitors for several years after the move. In 1884 Edward Maylard visited the anatomy collections and, though he found them in good physical condition, he commented that they were hard to access in the museum being in a room at the end of a long corridor and behind a door marked private! Medical students at the time were no longer aware of the existence of the collection[6].

In the 1890's, presumably in an effort to re-vitalise the collections, John H. Teacher, a Glasgow medical graduate, was appointed under-keeper of the medical collections. He overhauled the collection – cleaning, topping up, remounting specimens and re-sealing jars. He reorganised the specimens into a sequence more suitable for modern teaching in anatomy. Working from Hunter's original papers and manuscripts and carefully researching the histories of specimens, he produced a catalogue of the collection in 1900[7]. A very informative preface and introduction on the history of the collection are included.

An extended Anatomy Building was opened in 1901 and in 1911 Thomas Bryce, the Regius Professor of Anatomy and Honorary Keeper of the collections had the anatomy and pathology collections transferred to the purpose-built gallery therein. In the 1950's the pathological specimens were removed to the University Department of Pathology at the Royal Infirmary, Glasgow's largest teaching hospital. They were installed in the Departmental Museum there, joining an existing collection that had been assembled since the late 1800's as part of the clinical teaching collection. In 1962, University pathologists Alice Marshall and J.A.G. Burton, overhauled the pathology collection again and updated and re-published Teacher's catalogue[8]. In 1970, the anatomy material received the same treatment[9].

The related collection in Zoology, similarly removed to a Departmental Museum in 1923 had also been used to teach the medical class. Undergraduate medical students took courses in Zoology and Botany until the 1980's. The teaching of medical students was a core component of the career of Professor Sir John

Graham Kerr, the founding father of Zoology at Glasgow. Graham Kerr was a great advocate of the Museum, seeing it as an essential tool for teaching undergraduates.

Additions to the collections

In the 200 years since the Hunter material came to Glasgow, the collections have grown through donations, purchases and active collecting. In anatomy specifically, new specimens have been added to the departmental collections in response to new scientific findings and anatomical knowledge, changes in teaching and new preparatory techniques, e.g. corrosion casting and plastination. Both zoology and anatomy have sets of the fine wax models of animal and human development produced in the late 1800's by Adolf and Friedrich Ziegler and some of these are still in use for teaching today. The Hunterian Museum has significant material from Joseph Lister's tenure at the Royal Infirmary in Glasgow including ward furniture, experimental and antiseptic equipment, and microscope slides.
Equipment and instruments from eminent doctors associated with the University have been deposited with the Hunterian e.g. the surgical instruments of James H. Nicholl (1863-1921), a pioneer in paediatric surgery. The collections of the former Glasgow School of Nursing were given to the Hunterian in1994. Selected items are now on show which illustrate nursing practices from around 1890 to the 1970's.

Modern day teaching use

The Anatomy Museum is very much a working museum and is in daily use. Although many of the users are medical students, it is part of the Faculty of Biomedical and Life Sciences and, as such, is utilised by many undergraduate groups: medical, dental, nursing and science. The Faculty of Biomedical and Life Sciences has a flourishing Undergraduate School and the B. Sc. Anatomy and the B. Sc.

Neuroscience classes, in particular, use the facility. It is also much utilised by students in First – Third Year Medicine, First – Third Year Dentistry and the Bachelor of Nursing course. There is a computer cluster that is available to any university student.
Hunter's original anatomical specimens, displayed in cabinets on the Museum Gallery, are occasionally used in teaching. The specimens illustrating the anatomy of the ear and those of the developing heart are particularly suitable for undergraduate classes. Highlights are William Hunter's obstetrical casts, the specimens showing the fetus and placenta, and the preparations illustrating the lymphatic vessels and the vasculature of bone.
The ground floor cabinets of the Museum contain specimens that form a continuum with those housed in the anatomical prosection store. There is a high level of use of this collection across the undergraduate classes, but they are also used in a substantial, and increasing number, of specialist extramural courses that are hosted by the Laboratory of Human Anatomy. These include a number of training events for surgical specialties (plastic and reconstructive surgery, otorhinolaryn-

Fig. 3 - William Hunter's obstetrical casts in the Anatomy Museum.

Fig. 4 - Students using the computer cluster in the Anatomy Museum. The glass cases contain William Hunter's anatomy specimens.

gology, neurosurgery and orthopaedics), for anaesthetists, and for professions allied to medicine (physiotherapy, speech therapy, podiatry). A major use is on surgical educational programmes. Some of these use the dissecting room material adjacent to the Museum but many use prosected parts. The anatomists play an important part in the work of the Royal College of Physicians and Surgeons of Glasgow and in medical and surgical training nationally.

The pathology material at the Glasgow Royal Infirmary is no longer used in teaching, sharing this sad outcome with similar collections in other medical schools. There is no public access to this collection so this effectively means that it is 'mothballed' apart from occasional visits from researchers. Pathology museums have largely been abandoned in the United Kingdom with many having disposed of their material. Many of the specimens at the Royal Infirmary once belonged to William

Hunter. They are thus of great historical interest. They are a comprehensive collection of jarred specimens that show pathology rarely seen in such gross form. The collection has probably also suffered from a large reduction in the teaching of pathology in the Medical School. The future of the collection is under review at the time of writing. The Hunter material plus selected other historically important specimens are to be transferred from the hospital back to the direct supervision of the Hunterian Museum. The safe storage of the collection can be arranged but in view of the irreplaceability of the specimens and the potential educational value for both students and the public, consideration should be given to innovative ways of realising its potential.

The Zoology Museum has an impressive array of animal mounts, skeletons, spirit-preserved and other material from many parts of the world. Amongst the highlights on show are a complete elephant bird egg, a life size model of a giant squid and a very fine giant anteater mount and skeleton. The museum aims to show animal diversity across the 32 or so recognised phyla, explain their basic biology and show the relationships between these animal groups. Some living animals add an unexpected element to the visitor experience. Though the Zoology Museum is no longer used in teaching medical and dental students, it is a very important resource for science undergraduates, and is used extensively in the teaching of biodiversity and evolution for first to fourth year students.

The Zoology Museum has many resources that are not on display, but available to users on request. In addition to the permanent displays, demonstration material from the Museum's study collections are laid out for short courses and laboratories. One third year undergraduate course in animal diversity combines physical specimens and workbooks with online information. This multimedia programme can be viewed at: http://www.gla.ac.uk/Acad/IBLS/US/L3/local/zo/invertebrates/biomedia/index.htm.

Fig. 5 - Students studying a demonstration in the Zoology Museum.

Other uses of the collections

So far and perhaps unsurprisingly for a University collection, the focus has been on the student use, continuing its founding purpose into the modern day. Though some parts of the collection have fallen into disuse in this traditional sense, other uses have manifest themselves. It is important to understand that, due to restricted resources, these medical collections lack specialist in-house curatorial care and academic attention, either from a medical or a medical historical angle. The history of medicine is taught and researched at the University of Glasgow largely from a social sciences and economics perspective and this brings a limited interaction with the collections. A measure of collection management is provided by curatorial staff at the Hunterian Museum[10] and academic anatomists have taken special interest in the collections.

One of the present authors works as an anatomist and forensic anthropologist and has frequent recourse to the collection in the area of

comparative osteology. Although generally the police do not require to know the species from which animal bones come, this extra step can provide reassurance to the finders, for example that bones found beneath the floor of a house are discarded meat bones.

The presence of the Hunterian Museum is important at Glasgow University as it adds a dimension to academic life that engenders scholarship. These are rather difficult benefits to document or quantify but one of the present authors hopes his experience will give a practical illustration. Mention has already been made of his forensic work. This developed through his teaching on undergraduate and postgraduate medical and dental courses. A request from the Hunterian Museum to assist in cataloguing a collection of skulls led to a further enquiry about craniometric analysis of museum material. The author was thus already familiar with aspects of forensic anthropology when a need arose for someone to take over this area of work within the university. The Hunterian Museum had thus stimulated an interest and also provides an important resource for the work. Following on from this, several B. Sc. students have also enjoyed working on projects using the osteological specimens in the University.

Small numbers of medical research requests from external sources are received per annum, usually in relation to the William Hunter material. Increasingly, the collections are of interest to contemporary artists, photographers and writers and these interactions bring fresh perspective and usage to the collections. Some examples may illustrate such usage: the highly respected Scottish artist Christine Borland researched her installation *'To be Set and Sewn in the Garden'* using the library, anatomy, zoological and botany collections and expertise of the University. The work was commissioned by the University and in 2002 was installed outside the Hunterian Art Gallery. Using the Hunterian as a research resource and venue, in 2004 the writer Janice Galloway with the artist Anne Bevan collaborated to create the bookwork and installation, *'Rosengarten'*, exploring the theme of obstetrics.

Public audiences

The accessibility of the medical collections to a public audience has been variable over the years. Their use has mostly been by a professional/student audience. Restrictions in access have resulted from the siting of displays in departmental museums and the topography of these buildings may not lend itself to straightforward public viewing. The Hunterian Museum, a public space, developed a centralised professional museum structure from the 1970's and re-engaged with its medical collections around 2003. Until 2004, the focus of main Hunterian Museum displays were natural and human history, showcasing collection strengths in geology, ethnography, ancient history and numismatics. The Hunterian celebrated the bicentenary of its foundation in Glasgow in 2007 and a new display strategy evolved in the years leading up to that, based on ideas of illustrating the breadth of the collections including material not shown before, and on increased physical and intellectual access for a public audience. Consequently the Museum has undergone considerable refurbishment and has completely reorganised its displays. This has had two benefits in respect of the medical collections – new galleries devoted to William Hunter and to the rich medical heritage of Glasgow and the West of Scotland. Visitors are now immediately introduced to William Hunter, his collections and his life and times, in the display William Hunter: Man, Medic and Collector. Carefully selected specimens from Hunter's anatomical and pathological collections illustrate what Hunter collected and how he classified his specimens. There is a section on how the specimens were prepared along with insights into their medical and biological significance. The medical material is properly set alongside his other scientific, art and humanities collections in a balanced and rounded manner. For the first time since the Hunterian was moved to the current site, the medical specimens are given their place as the core of what he did and who he

was. The public, including the many coach parties of primary school children who visit the Museum, are now exposed to the history of medicine as soon as they enter the premises.

A second gallery, Healing Passion, is dedicated to local medical discoveries of national and international importance. There are displays on the work of Joseph Lister in antiseptic surgery, John MacIntyre and radiology, Iain Donald and ultrasound, William Tennant Gairdner and John Boyd Orr in public health, William Macewen and brain surgery, Professor John Glaister senior and junior in forensic medicine, and the devising of the Glasgow Coma Scale much used in critical care throughout the world. Scotland has an extraordinary history of innovation in medicine and is currently a world leader in biomedical research. This gallery focuses on Glasgow's achievements in particular and attempts to introduce the audience to key figures, their discoveries and how these impact on the lives of ordinary people in terms of advancements in diagnosis and treatment. Throughout the year the Hunterian runs a weekly series of short lunchtime talks for the public and medical history topics are included in the programme.

Fig. 6 - Mr David Hamilton, surgeon and medical historian, delivering a lunchtime '10 Minute Talk' on lithotomy to a public audience assembled in the Healing Passion Gallery.

It is satisfying to report that numerous pathology specimens, never before seen by the public have been re-purposed and incorporated into these new displays. Issues of the possible sensitivity of visitors to difficult or possibly 'gruesome' pathological material was given careful consideration. In the William Hunter display, a decision was made to display some animal 'monstrosities' – taxidermy specimens of two-headed or multiple-limbed artiodactyls. With the proper interpretation and explanation of such deformities as developmental disorders, visitor reaction has so far been one of curiosity and interest perhaps tinged with pity.

Profile and awareness of the collection

On a national level, The Hunterian participates in the Scotland and Medicine Partnership (http://www.scotlandandmedicine.com/), an initiative led by the Royal College of Surgeons of Edinburgh, to increase awareness of medical collections and connections in Scotland. The partnership has proved fruitful in many areas. Two of the most important are the production of a successful touring exhibition and as a networking opportunity to meet the diverse community of curators, academics, collection managers, librarians, volunteers and others who are responsible for medical collections in Scotland. Anatomy Acts (http://www.anatomyacts.co.uk/), the successful touring exhibition, (and associated publications) brought together an astonishing range of objects – specimens, models, art works, equipment, fine books drawn from the collections of the partners. It was a unique opportunity to highlight the wealth of medical collections across Scotland and to show it to audiences across the country. In terms of networking, it seems to be common experience that medical collections lack specialist/dedicated staff or occasionally any staff. Identifying existing expertise and providing mutual support was also a useful outcome.

To return to the Hunterian Museum, the Bicentenary celebrations brought about an increased interaction between the staff across the campus with professional interests in the Museum collections. Anatomists found themselves interacting with the Museum and Art Gallery curators and with art historians, to considerable mutual benefit. A decision was taken to increase access to the Anatomy Museum which, from the point of view of the signage at the entrance, appeared to be confined to students of anatomy and medicine, although this had never been strictly adhered to. The signs were removed and that the Anatomy Museum is open to the public is discretely advertised. Significant numbers of people visit the Museum each year. The anatomists were concerned about propriety and respect for the dead, but there have been no problems. The visitors appreciate the experience and depart better informed about the structure of the human body. Many of the visitors have professional and academic interests in anatomy. Occasional visitors have particular interests in medical history or in William Hunter. They have generally made contact with an appropriate member of university staff with a specific enquiry.

As a culmination of the Bicentenary celebrations, the Hunterian Museum recently hosted a conference entitled *William Hunter and the Art and Science of Eighteenth Century Collecting*. Sixty people attended, all with interests in the history of medicine, science and art. The range of expertise was immense. It was a good example of the academic ethos and collaboration that the Museum brings to the University.

In conclusion, the medical collections at Glasgow are used in a variety of ways. Principally they are viewed as part of the medium for delivery of anatomical and scientific education of health professionals, biomedical students and researchers in the west of Scotland and beyond. There have been improvements to access and interpretation for public audiences. Academic and artistic collaborations

have stimulated interest in the collections. Though there remains considerable untapped research and teaching potential, recent activities mean that the collections presently enjoy a heightened profile. The challenge for the future is to capitalise on renewed interest in the collections to improve resourcing and thus realise that potential.

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