

The scientific and pathological collections for medical teaching, an underestimated heritage. The example of the Gordon Museum of Pathology in London

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ABSTRACT

Created in 1826, the Gordon Museum of Pathology at King's College London is one of the largest pathology Museums in the world and medical teaching is its primary function. It is not open to the public but welcomes visitors of the medical/scientific field.

The museum also houses important historical and scientific collections including the anatomical and dermatological wax models of the artist Joseph Towne. Since the seventies his moulages have been used in the lessons.

As it continues to accept new preparations and models, the museum recognises and uses the important educational potential of its antique and modern scientific collections to enhance the observation skills and empathy in health-care students.

Key words:

Gordon Museum, anatomical wax models, dermatological moulages.

RIASSUNTO

Le collezioni scientifiche e anatomo-patologiche per l'insegnamento medico, un patrimonio sottostimato. L'esempio del Gordon Museum of Pathology di Londra.

Nato nel 1826, il Gordon Museum of Pathology del King's College di Londra è uno dei più grandi musei di patologia del mondo e la sua funzione primaria è l'insegnamento medico. Non è aperto al pubblico ma accoglie visitatori del settore medico/scientifico.

Il Museo ospita anche importanti collezioni scientifiche di carattere storico tra cui le cere anatomiche e dermatologiche dell'artista Joseph Towne. Sin dagli anni settanta i suoi moulages sono stati utilizzati nelle lezioni. Dato che continua ad accettare nuovi preparati e modelli, il museo riconosce e utilizza l'importante potenziale educativo delle sue collezioni scientifiche antiche e moderne che contribuiscono a migliorare la capacità di osservazione visiva e l'empatia tra gli studenti del settore sanitario.

Parole chiave:

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INTRODUCTION

Accommodated in the Hodgkin Building, hidden in the Guy's Campus, the Gordon Museum is an independent department now affiliated to the Faculty of Life Sciences & Medicine within the King's College of London.

The primary function of the Museum, one of the largest pathology museums in the world, is medical education at both undergraduate and postgraduate levels. It provides a range of services and functions to the School of Medicine training medical, dental and biomedical students and professionals to diagnose disease. The Museum supports the studies of over 9,500 current healthcare students.

It is the largest teaching medical Museum in the UK and has a growing collection of approximately 8,000 pathological specimens. The oldest specimen dates from 1608 and the most recent was added in 2016 (see website n. 1).

It is not a public Museum but rather is open to the "Medical Public" of KCL and the associated Hospital Trusts. It also welcomes legitimate visitors from across the UK and from around the world. The Museum is fully licensed by the Human Tissue Authority and operates under the Human Tissue Act legislation which is a requirement of institutions holding Human Material (see website n. 2).

Interestingly, it is one of the few medical Museums in the country that continues to accept new specimens

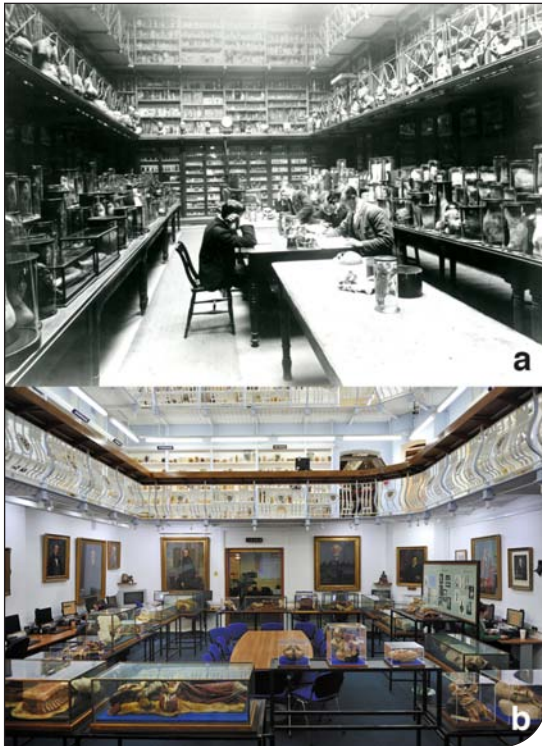


Fig. 1. a) The Hodgkin Museum at Guy's c.1900.
b) Gordon Museum, 2014.

to document new and emerging diseases such as HIV/AIDS.

In 2012, for example, the Museum has welcomed the mummified body of Mr Alan Billis who died in 2011 from lung cancer. The 61-year-old decided to donate his body for use in a project which re-examined the mummification processes of the ancient Egyptians (see website n. 3).

The first collection of specimens was initially brought together by Thomas Hodgkin (1798-1866), the first Medical Curator and lecturer in Morbid Anatomy at Guy's Hospital (Dawn & Edwards, 1996). These formed the basis of the Medical School's first Museum which opened in 1826 (fig. 1). Hodgkin's catalogue of 1829 lists approximately 3000 exhibits and by 1861, the London Journal of Medicine reported that "the Museums are on a scale which entitles them to rank among the first of our national collections" (see website n. 1).

The actual Gordon Museum was opened in the current location in 1905 and today hosts a number of historically important medical collections. They include some rare specimens and artefacts from Hodgkin, Thomas Addison, Richard Bright and Astley Cooper and the Lam Qua pre-operative paintings commissioned by the American missionary Peter Parker in the 1830's of patients at the Canton Hospital (see website n. 4).

However one of the jewels in the crown at the Museum is undoubtedly the anatomical, dermatological and pathological wax model collection of the sculptor Joseph Towne (1806-1879), the first and the only old ceroplastic artist known in the UK.

The Gordon Museum is also host and inspiration to artists and it is often a venue for events and contemporary exhibitions. Anatomical modeller and sculptor Eleanor Crook (fig. 2) has been artist in residence at the Gordon Museum since 2007 and has carried on Joseph Towne's tradition by creating teaching figures for the School of Medicine (see website n. 5).

JOSEPH TOWNE

In Italy, during the 18th century, the tradition of anatomical ceroplastics led to the creation of dedicated workshops first in Bologna and later in Florence, whilst in England the first serious attempt at introducing the art of modelling wax anatomical works was made by the sculptor Joseph Towne (1806-1879). Apparently previous attempts had been made, although all noteworthy anatomical wax models that had been exhibited had been imported from abroad (Wilks & Bettany, 1892). Indeed Italian workshops sold many anatomical models, often in a reduced scale, across Europe and overseas.

Towne worked at Guy's Hospital Medical School from 1826 until his death in 1879, a period of 53 years. In this half-century of work, it is thought that he created nearly a thousand medical models in coloured wax some of which were sent abroad to medical schools in India, Australia, Russia and America (Ballestriero & Richardson, 2014). His earlier models were based on the dissections of demonstrator John Hilton and their beauty and accuracy secured



Fig. 2. E. Crook, Bell's palsy, 2013.



Fig. 3. J. Towne, Man with malformed skull, 'Head of Turk', 1851.

him a prize at the first International Exhibition of London in 1851 (Wilks & Bettany, 1892).

Although he was also a skilful marble sculptor, Towne is best remembered as the great master of English ceroplastic art. Working in isolation and developing his own very distinctive style he was the creator of a great collection of anatomical, dermatological and pathological models (fig. 3).

Indeed, one of the fields in which the use of wax has been indispensable and possibly unrivalled is the representation of pathological anatomy. Even today there is probably no other material which manages to reproduce the past and present pathologies of the human body in such a realistic manner (Ballestriero, 2013). As disease and pathology began to be studied scientifically they were described by means of drawings, paintings, and sketches. However, as with normal anatomy, wax seems to be among the most suitable materials with which to overcome the unavoidable limitations of two-dimensional representations such as drawings and paintings.

The Gordon Museum still houses the largest collection of Towne's models of the interior structure of the human body and also moulages of the exterior skin conditions sent to Towne by Thomas Addison, the foremost authority on skin disease of his day.

As the museum still preserves the information of the individual patients, each of the specimens is fully documented and all the relevant details of the condition and medical history of the patient are on show with the specimen.

All the dermatological moulages are derived from patients treated at Guy's Hospital. Founded in 1721

by Thomas Guy, it was originally established as a hospital to treat the "incurables" that St Thomas's Hospital refused to accept. The hospital was known for the care of "the incurably ill and the hopelessly insane" (see website n. 6).

One hundred and ninety years on Towne's models on display at the Museum are still used for didactic purposes and before the nineteen seventies dermatological moulages were often used in classes. Since the seventies dermatologists at the Gordon Museum began to use the models more systematically and nowadays on Monday dermatologists, such as Jonathan White, lead classes at the museum using Towne's waxes.

The collection is not only interesting from a historical point of view but it is still relevant to third world countries where some of the diseases, represented by moulages, are still observed. Moreover in recent years in Western countries we have seen the return of some long since eradicated diseases.

For example, in the past decade the number of diagnoses of syphilis has risen substantially in the UK with several local outbreaks across England, the largest of which was in London between 2001 and 2004. There were 2,978 cases of syphilis diagnosed between 2011 and 2012 in the UK. (see websites n. 7, 8). It can therefore be said that the collection is still relevant today and that its importance from a Medical teaching standpoint is undiminished (fig. 4).

The dermatological moulages were considered and treated as if they were real specimens and for these reasons too they were represented in glass containers similar to the vessels used for human specimens. In practical terms the models are heavy, solid, thick and



Fig. 4. J. Towne, Congenital syphilis, date unknown.

therefore particularly suited to frequent handling by physicians during teaching demonstrations. Comparing to other wax collections the English anatomical models were chiefly intended for use as a teaching aid; the dermatological wax models in particular were used continuously and at times the students seemed to prefer using the wax preparations as opposed to studying the actual patients as in this way they could spend more time observing the features of the disease (and the models were not contagious). The convenience of having accurate and realistic pathological models readily allowing the detailed study of the disease throughout its various stages meant that the use of moulages rapidly spread throughout Europe (Ballestriero, 2007). At the Gordon Museum even today students interact with the wax moulages as if they were real people and only afterwards they begin to see patients in clinic. As Jonathan White, Honorary Senior Lecturer at KCL suggested, students enjoy role-playing clinical cases in a friendly environment. It was found that, unlike those who use only books and two-dimensional ima-

ges, the students who are study using the dermatological models subsequently show greater empathy towards the patients.

This innovative use of art to improve students' diagnostic skills is spreading and a growing number of medical schools are incorporating the arts into their curricula. "Schools such as Yale University and Harvard University are partnering with museums, where a painting is the patient, the gallery is the hospital room, and the students are practicing diagnosticians" (see website n. 8). This idea was the brainchild of Irwin M. Braverman, M.D., professor emeritus of dermatology at Yale University School of Medicine who took his students to the Yale Centre for British Art in 1997. He suggested: "The paintings are very much like patients because they have a lot of signs and a lot of contradictions. The paintings are surrogate patients in every way possible." (see website n. 8).

This theory confirms and backs up the teaching approach used at the Gordon Museum. As Braverman found 'dramatic improvement' in his students' ability to describe clinical scenarios in Yale, according to some lecturers at the KCL Towne's models have a greater impact, especially on younger students.

The idea is to enhance specific skills in health-care students and improve social cognitive abilities, especially empathy. Using artworks as 'patient surrogates' is an ethical way to practise these skills (Gaunt, 2012), with, according to White, the added benefit of not disturbing sick patients.

Not many studies have been made of these theories in London yet, however it was noticed that pathological waxes moulages dermatological seem to be even much more effective than two-dimensional illustrations.

It should be necessary to conduct further study to demonstrated moulages' efficacy but the positive results so far demonstrate the importance of these artefacts.

The Gordon Museum presents itself as one of the leading museums in the scientific field and as an example of valorisation and use of antique and modern scientific collections in education.

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