

# Human Anatomical Preparations History, Manufacturing Techniques and Ethics in Conservation

## International Symposium at Dresden University of Fine Arts

### Degree Course in Conservation

11th / 12th  
November 2021



Hochschule für Bildende Künste Dresden

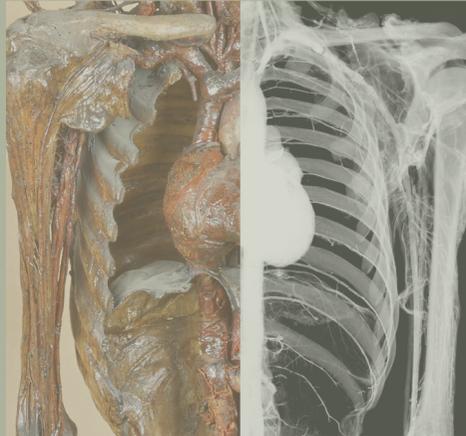
## Human Anatomical Preparations

Human anatomical and pathological preparations have been serving science, research, and education for centuries. At least since the 16th c., anatomists, prosectors, and preparators have used continually improved and sometimes elaborate manufacturing techniques, often requiring interdisciplinary knowledge, to create increasingly sophisticated and durable preparations. Collections of these items, established and expanded over centuries in European centres for medical education, are invaluable today. A closer look at such anatomical and pathological collections in Europe reveals, however, that the state of their conservation is often precarious; in some cases there is danger of losing the entire inventory.

As a result of the research project "Körper und Malerei" (2017 – 2020), the Anatomical Collection of the Dresden University of Fine Arts is now accessible to the public and for education and research. Founded over 200 years ago, the collection contains more than 500 preparations and models. Within the framework of the research project, numerous problems were defined and discussed and appropriate plans were developed and implemented. Nonetheless, many questions remain open and are to be the central focus of discussion in this conference.

The two-day international symposium at the Dresden University of Fine Arts will begin with an introductory session highlighting the history and significance of human anatomical and pathological preparations. Manufacturing techniques will be closely examined, and future utilization will be discussed. Special focus will be on the issue of successful transfer of historical preparations from an actively-used teaching collection to a secure exhibition collection.

Injection preparation (whole body preparation) of the Dresden University of Fine Arts



## Panel I

A comprehensive knowledge of historical manufacturing, preparation, and conservation techniques for anatomical specimens is not only of great interest from a medical history perspective but is also a prerequisite for appropriate conservation of the preparations. Therefore the first panel will present research results regarding historical manufacturing techniques, using case studies. In particular the influence of the manufacturing technique on preservation will be examined, including for instance whether a technique has beneficial or adverse effects on the aging process. The following questions will also be addressed: What problems will arise from current and future intensification of legal regulations regarding pest control, storage of certain wet preparations (e.g. containing formaldehyde), biocides, or dry preparations containing heavy metals? How will this development impact the preservation of historical collections?

## Panel II

The preservation, use, and future presentation of human anatomical preparations based on scientific standards require establishment and maintenance of an ethically appropriate handling of the collections. The second panel will focus on current ethical issues within this context: What socially conditioned changes in our ethical appreciation for human remains have taken place in the past decades? How has our attitude been (or will be) influenced and changed by discussion of travelling expositions such as "Körperwelten" (since 1995) or of preparations deriving from a context of injustice? How does such discourse influence methods for presentation, perception, and assessment of the state of preservation of human preparations? How do issues of conservation violate or protect post-mortem human dignity? What areas of conflict are opened by interventive conservation of human anatomical and pathological preparations and can they be brought into harmony with international rules on conservation and restoration of artistic works and cultural assets?

## Panel III

The third panel will focus on the practical situation regarding preservation of human anatomical and pathological preparations and the lack of specialized restorers and training schools in Europe: Who is currently responsible for maintenance, care and preservation of historical collections of human preparations? How can sound scientific research and conservation and restoration plans (up till now extant only in isolated cases) be developed and appropriate methods and techniques be established? How can the international community of preparators, curators, and conservators-restorers cooperate to improve the situation in the collections? What contribution could be made by educating specialized preparators/conservators-restorers in this field at a university level?

## Evening Event

The symposium will conclude with an evening event during which the historical Anatomical Collection of Dresden University of Fine Arts can be visited.

## Information / Registration

Due to the unpredictable course of the COVID-19 pandemic, **all participants will have the opportunity to take part in the symposium online or in presence.** All lectures and discussions will take place in the auditorium of the Dresden University of Fine Arts, additionally will be streamed and simultaneously translated English-German/German-English. French interpreters will be available for the discussions.

For registration (online and presence) contact: [HAP@hfbk-dresden.de](mailto:HAP@hfbk-dresden.de)

11th Nov. 3 pm – 7.30 pm  
12th Nov. 9 am – 10 pm

Dresden University of Fine Arts  
Güntzstraße 34  
01307 Dresden

In cooperation with:



Prof. Ivó Mohrmann  
[mohrmann@hfbk-dresden.de](mailto:mohrmann@hfbk-dresden.de)

Prof. Dr. Christoph Herrm  
[herrm@hfbk-dresden.de](mailto:herrm@hfbk-dresden.de)

Dipl.-Rest. Jakob Fuchs  
[fuchs@hfbk-dresden.de](mailto:fuchs@hfbk-dresden.de)

Funded by  
**DFG** Deutsche  
Forschungsgemeinschaft  
German Research Foundation

This measure is co-financed with tax revenues on the basis of the budget adopted by the members of the Saxon State Parliament.

### 11th November

1.30 pm Registration – Güntzstraße 34

## Introduction – Human Anatomical Preparations / 3 pm to 7.30 pm

Moderator: Prof. Dr. Constanze Pires

3 pm **Welcome**  
Matthias Flügge (Rector Dresden University of Fine Arts)

3.30 pm **History and Significance of Human Anatomical Preparations at Dresden University of Fine Arts**  
Prof. Ivó Mohrmann (Chief conservator of the Anatomical Collection, Dresden University of Fine Arts)

The study of the human body brought together physicians and artists very intensively in Dresden, especially since the founding of the Academy of Fine Arts in 1764. The lecture deals with the importance of anatomy, was designated as an auxiliary science, for the training of artists. A further question is: which role play artists as draughtsmen, taxidermists, but also as creators of models to this day?

4 pm **Art and Life: Anatomy Collections at the Beaux-Arts de Paris**  
Alice Thomine-Berrada (Chief curator, Les Beaux-Arts de Paris)

Since its royal recognition in 1648, the teaching of anatomy, as a symbol of the place of mankind in the post-Renaissance culture, is central for the Académie royale de peinture et de sculpture in Paris. But its foundations, scientific or artistic, have always been controversial. The anatomy collection of the Beaux-Arts de Paris, gathered by the professors, artists or physicians, since the end of the 18th c. in a gallery especially built, are the materialisation of these debates since it is including anatomical preparations as well as artistic plaster casts. Through examples coming from the analysis of the collection, the archives of the department of anatomy and the publications of its main professors, this contribution will argue how these debates have evolved during the 19th c. and the 20th c. and ended in 1968, with the end of dissection practice and the disappearance of the term of "anatomy", which left place to the term of "morphology". Nowadays the importance of drawings bones, skeletons or mummies is more important than never and the main aim of the renovation of the collection undertaken since one year, is to let more place to students for learning from this historical collection.

4.30 pm **Coffee break**

5 pm **From Mercury to 3D – Past, Present and Future of the Meckel Collections**  
Prof. Dr. Heike Kielstein (Director of Institute for Anatomy and Cell Biology, Martin Luther University Halle-Wittenberg)

The collections contain more than 8,000 human and zoological specimens. Some of the items date back to the 18th c. and are unique and extremely valuable from a medical and historical perspective. The collections have been designated a "valuable cultural asset" in Germany since 2015. The specimens consist of wet and dry preparations illustrating the (physiological and pathophysiological) development and structure of the human body. Furthermore, fascinating corrosion casts of various organs, such as kidney, liver and spleen are demonstrated. Items used for comparative anatomy complete the wide range of items.

5.30 pm **The Anatomical Preparations of the Past: Historical Value or Current Educational Tool**  
Prof. Dr. Sandra Zecchi-Orlandini (Clarissa Morandi, Paolo Venturi, Chiara Sali, Biomedical Museums of Human Health Sciences School, University of Florence)

The collections of the Anatomical Museum at the University of Florence date back to the Physiological Cabinet of the Royal Institute of High Education and are made up of different sections: osteological collection (more than 1600 samples), anatomical preparations (ether dried and in conservative fluids), wax models and anatomical instruments. The bulk of samples spans from the end of the 18th c. to the beginning of the 20th c. The samples were collected for multiple purposes: I) it represented the main scientific interests of the university lecturers, II) demonstrated the knowledge and skills of dissectors, and III) was a mandatory tool for the education of medical students. Taken together these aims contributed to an outstanding of "3-D-Anatomy-Handbook", which has been widely used by generations of students.

The evolution of technology and the enormous range of media presently available for students seemed to have confined these collections to mere museum purposes, but indeed their helpfulness and didactic potential is still actual, as testified by the interest of young generations of students (both biomedical and fine arts) visiting the Museum and appreciating the significance and actual understandability of the preparations.

6 pm **'True Pictures' for 'Direct Viewing'. Rudolf Virchow and his Collection of Pathological Specimens**  
Prof. Dr. Thomas Schnalke (Director of Medical History Museum, Charité Berlin)

27th June 1899 was an important day for Rudolf Virchow. The world-famous Berlin physician opened his newly erected Pathological Museum on the premises of the Charité. Over the following two years he would set up and exhibit over 23,000 dry and wet human specimens in a space of 2,000 m<sup>2</sup>. Virchow used his museum for two specific purposes: for teaching medical students and for communicating images of diseases to a wider, interested lay audience. At the time, he was fully convinced of the impressiveness and persuasiveness of his specimens. However, his didactic enthusiasm regarding these objects had only recently developed following a technical revolution in the preparation of specimens. In my contribution I will briefly sketch the development of Virchow's collection and then address some questions: how were new specimens made in Virchow's Institute of Pathology at the Berlin Charité? How did Virchow value these items in the context of other available teaching materials? What did Virchow ultimately discover in his specimens and how did he strive to convey these features in his new museum? A closer view on the timely production, presentation and use of these "images of themselves" (Rheinberger) also opens a perspective on ethical dimensions of dealing with "human remains" of this kind – then and now.

6.30 pm **Dinner**

### 12th November

## Panel I – Manufacturing Techniques, Handling and Preservation / 9 am to 1 pm

Moderator: Prof. Dr. Christoph Herrm

9 am **Medical Collections at the University of Glasgow: History, Description and Mystery**  
Maggie Reilly (Curator of Zoology, Hunterian Museum & Art Gallery Glasgow)

A brief history of medicine in Glasgow will be outlined to provide a context for the assembly and use of anatomy/pathology collections in teaching, research and practice. As medical teaching in Glasgow accelerated in the mid-18th c., the time period covered will be approximately 1750 – present day. A description of the main collections will be given with special focus on those of the foundational collections of William Hunter, the Scottish anatomist, physician and man-midwife. Particular reference will also be made to the range of preparation techniques exhibited in the collections. An intriguing collection of air-dried dissection preparations, of uncertain provenance and under-known production will be described and discussed.

9.30 am **The Anatomical and Pathological Dupuytren Collections: an Insight into Management, Conservation, Restoration and Public Appreciation**  
Eloïse Quélet (Conservator at the Anatomical and Pathological Dupuytren Collections, Sorbonne University Paris)

The lecture will present and describe the anatomical and pathological Dupuytren collections of Sorbonne University in Paris, their institutional context, the diversity of preparations, research projects and the specifics of collection management. The lecture accompanies a conservator through her daily work. It shows the processes of inventory, research, conservation and further discusses opportunities for an appropriate appreciation. In more detail, it describes some restoration work, interventions and particularities of specimens, focusing also ethical and legal concerns regarding the conservation/restoration of human remains. The lecture concludes with the presentation of some special projects around the anatomical and pathological Dupuytren collections.

10 am **Coffee break**

10.30 am **Comparison of Historical Conservation Fluids**  
Eduard Winter (Collection manager, Collection of Anatomical Pathology in the Madhouse Tower Vienna)

Formaldehyde, which was discovered in the middle of the 19th c., soon replaced the usual alcohol as a mean of preserving anatomical and pathological-anatomical specimens. Through different additives, numerous different preservation fluids were created. Most of these are no longer used today. However, preparations storing in obsolete solutions can still be found in historical collections. This causes various issues, but on the other side offers the opportunity for interesting investigations.

11 am **Handling with Biocides and other Harmful Substances on Dry- and Fluid-Preserved-Specimens**  
Martin Troxler (Chief taxidermist, Natural History Museum Bern) and Fabian Neissenwirth (Taxidermist and student of conservation and restoration, TH Köln)

Biocide-contaminated dry specimens and harmful substances in fluid-preserved-specimens can be found in any natural history and anatomical collection. Therefore, the conservation and care of such cultural assets might be associated with a health risk. The lecture suggests a dialogue between conservation science and preparation technology, based on many years of experience from zoological preparations. The aim is to establish practicable guidelines for handling and working with contaminated preparations and preservation fluids.

12 pm **Lunch**

## Panel II – Ethics in Research, Conservation, Restoration and Presentation / 1 pm to 3.30 pm

Moderator: Matthias Flügge

1 pm **Family Member. Research Subject. Family Member? Reflections on our Responsibility Today for a Foetus with a Genetic Defect. (so-called "Hühnermensch von Taucha")**  
Fanny Stoye (Head of museum, Natural History Cabinet Waldenburg)

The current challenge for museums concerns an appropriate ethical inter-course of human remains of non-European origin and those with a clear context of injustice, even to the point of restitution or burial. The situation seems to be different with human specimens such as those in the Baroque cabinet of rarities of the Linck family of pharmacists in Leipzig. These mostly came anonymously and from the regional environment and served for scientific research. However, the lecture discusses why ethical concern differs between different collections from different origins. Specifically, the lecture deals about a female foetus that was stillborn in 1735 in Taucha near Leipzig in the eighth month of pregnancy. It had conspicuous deformities that reminded on a rooster. It caused an autopsy by the physician Gottlieb Friderici in Leipzig. With no result for the cause, the child was dissected and not buried. A report on its parents, the family and the autopsy was written and given to the Linck Collection – according to Friderici for "future generations of doctors who understand more about this". In 1994: a Chemnitz physician proved that the foetus had an extremely rare genetic defect on the 17th chromosome. It is the only reported specimen in the world expressing this defect. The lecture approaches the question, how to deal with specimens after completed scientific investigations. Moreover, if the family tree of the human specimen can be reconstructed – does it signify that a research object can theoretically be made into a family member again?

1.30 pm **Ethical Considerations when Dealing with Human Anatomical Specimens from the Nazi Era**  
Mag. Dr. Christian Lechner (Pediatrician at the Department of Pediatric and Adolescent Medicine, Medical University of Innsbruck) and History PhD-Student, University of Innsbruck)

The Anatomical Collection at Innsbruck University contains about 4,000 specimens, where about half of them are of human origin. The current reappraisal of the history concerns the identification of preparations from the National Socialism. So far, a few preparations with a Nazi context of injustice have been found. For many other specimens, the final clarification of the provenance does not seem possible due to limited data availability.

Dealing with specimens from the National Socialist era and of unknown origin has numerous ethical implications and requires a reflective approach that takes into account the current recommendations of respective experts. In the lecture, these recommendations will be applied to the corresponding Innsbruck preparations and put up for discussion.

2 pm **Preservation and Exhibition of Human Remains from the Anatomical Collection of the Faculty of Medicine of Montpellier**  
Caroline Ducourau (Curator, Director of scientific cultural and historical heritage at Faculty of Medicine, University of Montpellier)

The Faculty of Medicine at Montpellier University accommodates an important anatomical collection presented in a historic gallery from the mid-19th c. This collection dates from the last years of the French Revolution, which was a time of profound reforms in education of medicine and surgery. Almost half of it consists of human anatomical and pathological specimens. The collection expanded in the course of the 19th and 20th c. through the activities of the Practical School of Anatomy and Surgery, as well as through numerous donations from professors or surgeons. Thus, it is a remarkable contemporary testimony to the teaching methods of anatomy before the time of modern "anatomy on the living". Today, the University of Montpellier faces complex issues concerning the difficult and elaborate preservation of human remains, as well as their exhibition, not only for medicals but also for a broader public.

2.30 pm **Ethical Approaches to the Conservation and Restoration of Human Anatomical Preparations**  
Jakob Fuchs (Conservator and PhD-Student, degree course in conservation at Dresden University of Fine Arts)

Besides technical and "material" related conserving and restoring human anatomical preparations, also ethical principles dealing with human remains should be taken into account. So far, it lacks an appropriate discussion how restorers here can come into conflict with the ethical principles of conservation/restoration. The University of Fine Arts Dresden has dealt intensively with this problem during the degree course in conservation the last years. Using concrete examples, the lecture will present initial proposals and results, put them up for discussion and give an outlook.

3 pm **Coffee break**

## Panel III – Care of Anatomical Collections in the Future / 3.30 pm to 6 pm

Moderator: Prof. Ivó Mohrmann

3.30 pm **Apprenticeship as a Medical Preparator at the Walter-Gropius Berufskolleg in Bochum. Pillars of Training, Developments and Outlook**  
Dr. Gesche Krause (Technical instructor for medical preparation techniques, Walter-Gropius Berufskolleg Bochum)

The lecture gives an overview of the training structures of the three-year full-time school-based education at the "Walter-Gropius Berufskolleg" in Bochum. An integral part of the training concerns the subjects of preparation technique, histology, anatomy, physiology, pathology, forensic medicine and materials. In the subject of dissection technique, different focal points are set over the three years of training. The anatomical preparation takes place on body donations, which were fixed with Formol, in the anatomical institute of the Ruhr University Bochum. The sectioning technique is taught in cooperation with the 'Berufsgenossenschaftliche Universitätsklinikum Bergmannsheil'. Due to the different professional requirements of the medical preparators, appropriate developments in school education have become indispensable in recent years. After consultation with colleagues in the field, cooperation with the Association of German Preparators and Taxidermists (VDP) corresponding measures for the further development of training have been initiated. These include, for instance, dealing with collections and imparting knowledge about historical preparation techniques. Some cooperation have been initiated and established. However, further development is necessary in order to meet the demands of diverse tasks of preparators.

4 pm **Considerations on Specialisation in the Conservation and Restoration of Human Anatomical Preparations and Collections**  
Prof. Dr. Christoph Herrm (Prof. Ivó Mohrmann, Jakob Fuchs, degree course in conservation at Dresden University of Fine Arts)

Prepared human remains comprise special demands on the institutions and persons entrusted with their preservation. On the one hand, they embody the purpose for which they were manufactured - objects of medical and artistic anatomy - and, on the other, the change in the image of man that was and is the basis for their manufacturing and use. The professional and ethical handling of human remains or anatomical specimens must take into account their material nature as well as their cultural, social and ethical dimensions. This requires a well-founded training in cooperation with those who hold hands on and are responsible for favourable environmental conditions. This lecture would like to propose a two-stage training model and put it up for discussion. In an undergraduate course of study, the subjects relevant to all fields of conservation and restoration are taught: materials science, technology, conservation and restoration techniques, art and historical sciences, and natural sciences (as taught by an established, scientifically oriented course of study). The second stage of the training teaches specific problems related to the preservation of human remains in theory and practice in an interdisciplinary supplementary course of study. These include: special legal and ethical aspects, indexing and recording, examination and documentation, preventive conservation and handling, pest management, health and occupational safety, principles and techniques for active conservation and restoration.

4.30 pm **Coffee break**

5 pm **Archives and Their Most Sensitive Objects**  
Prof. Thomas Kübler (Head of Dresden City Archive)

City archives are increasingly responsible for the takeover, preservation and scholarly accessibility of collections they have been taken over for reasons of preserving cultural assets. Since information on their provenance has often been lost, the collections are often stored in depots under inadequate conservation conditions. Hence, cooperation with universities offering subject-specific courses need to be further developed. The current institutions often do not have the resources for indexing, digitisation and scientific evaluation. This might cause unmotivated, overambitious and ultimately wrong conservation practice. It further applies to exhibitions, especially when they are not competently prepared, accompanied and realised. Research and teaching in the field of conservation procedures and ethical principles at universities needs to be established. A successful example of this is the curriculum for the training of conservators at the Dresden University of Fine Arts, which includes archive and exhibition practice in cooperation with appropriate institutions. The example of the patient file and X-ray image archive in the Dresden City Archive and the pathological-anatomical collection of the Institute of Pathology "Georg Schmorl" of the Dresden Municipal Hospital is intended to illustrate the necessity of scientifically based conservation practice and adherence to ethical principles.

5.30 pm **Collection Care in Smaller Museums – a Practical Report from Museum Care in Saxony**  
Katja Margarethe Mieth (Director of the Saxon State Office for Museums, Dresden State Art Collections)

Although anatomical specimens and collections are rarely found in smaller institutions, their long-term conservation is a complex challenge for all institutions. For smaller collections, without a restoration specialist, it is therefore necessary to develop a tailor-made concept for dealing with these collections and to establish and maintain contact with appropriate networks. Recommendations for the preservation of collections and regular restorative assessments in the sense of „maintenance“ are good ways to ensure this. In addition to questions of collection preservation, it is also important to sensitise the institutions to ethical questions of analogue and online presentation to the public and to find appropriate solutions.

6 pm **Coffee break**

Anatomical Collection of the Dresden University of Fine Arts



## Evening Event / 6.30 pm to 10 pm

6.30 pm **The New Arrangement of the Anatomical Collection of the Dresden University of Fine Arts**  
Dr. Sandra Mühlenberend (German Optical Museum Jena / Head of BMBF project "Körper und Malerei" at Dresden University of Fine Arts 02/2017 to 01/2020)

The Dresden Academy of Fine Arts' Anatomical Collection is one of the most valuable and comprehensive of its kind. All the important aspects of anatomy for artists over the past 200 years can be demonstrated through its artefacts – be it human or animal anatomy. Its preservation is owed to various circumstances: the continued teaching of anatomy to artists from 1800 to today, the high esteem in which the Academy held the collection into the 1980s, as well as a professional and dedicated staff from the fields of medicine and art. The collection's national and international exclusivity is based on the fact that comparable historic collections of other art academies have been lost. The Ecole nationale supérieure des Beaux-Arts de Paris and the Russian Academy of Arts in St. Petersburg are the only exceptions. Between February 2017 and January 2020, the collection was intensively researched in the BMBF project "Körper und Malerei" and completely reorganised. The main subject of the lecture is the curatorial concept and the focal points of the new arrangement.

7 pm **Change of location: Güntzstraße to Brühlsche Terrasse**

8 pm **Visit to the Anatomical Collection of the Dresden University of Fine Arts (Entrance Georg-Treu-Platz)**

Parallel Dinner

