

Chapter 7

Adieu Albinus: How the Preparations in the Nineteenth-Century Leiden Anatomical Collections Lost their Past

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In 1932, Leiden laboratory assistant D.C. Geyskes was asked to clear out an old cupboard. It had formerly belonged to the brothers Bernhard and Frederik Albinus, both eighteenth-century anatomists. It contained around 800 wet preparations, mainly from the eighteenth and early nineteenth centuries. Geyskes's task was to reconnect these preparations to their past and, in particular, to their makers.¹ In 353 cases he succeeded: these preparations had a legible label with their maker's name. The remaining preparations, around 450, remained disconnected from their makers, as did many more preparations outside the cupboard – old preparations in the collections still in use in the medical laboratories.² How did all these preparations lose their past? In this chapter, I show that it happened mainly in the second half of the nineteenth century, when the preparations were transferred to new jars, remounted, relabelled and rehoused – all practices that distanced them from their makers. This does not mean that the three curators who carried out most of this work – Teunis Zaaijer, Johannes Boogaard and Hidde Halbertsma – were ahistorical men.³ They all valued the past in one way or another: Teunis Zaaijer showed in his inaugural lecture that he was well aware of the history of anatomy; Johannes Boogaard chaired a committee to erect a statue for Herman Boerhaave; and Hidde Halbertsma treasured a microscope

¹ For a detailed description of the results, see D.C. Geyskes and C.J. van der Klaauw, 'Der heutige Zustand der anatomischen Kabinette früherer Jahrhunderte in Leiden', *Janus: archives internationales pour l'histoire de la médecine et pour la géographie médicale*, 38, 1934, pp. 179–92.

² *Ibid.*, p. 182.

³ Geyskes and his supervisor C.J. van der Klaauw explicitly accused them of a 'lack of historical awareness' in *ibid.*, pp. 181–82; medical historian Antonie M. Elshout later implicitly suggested the same in A.M. Elshout, *Het Leidse kabinet der anatomie uit de achttiende eeuw: de betekenis van een wetenschappelijke collectie als cultuurhistorisch monument*, Leiden: Universitaire Pers, 1952, p. 4.

made by Antonie van Leeuwenhoek, on whom he wrote his dissertation.⁴ Yet, under their supervision, many preparations lost their past. The curators had historical awareness, but they also had professional obligations. Their first task was to maintain the preparations' usefulness for research and teaching, the main purposes of the collections. To do so, they had to adapt them to new medical theories and practices. This required constant reinterpretations, and these reinterpretations disconnected the preparations from their makers.

The curators did not carry out these reinterpretations on their own. We know that audiences – in this case mainly students and researchers – shape collections just as much as curators do.⁵ And, building on the body of work on the agency of objects, I want to argue that a third party is involved in the process: the preparations themselves.⁶ Without their specific material properties, the reinterpretations could never have been carried out, as I will demonstrate. Together, then, curators, audiences and preparations determined the fate of the Leiden anatomical collections in the nineteenth century.

This chapter describes how they did this. I will first show how, in the first half of the nineteenth century, the anatomical preparations were both medical and historical objects. Next, I will discuss how the preparations were continuously reinterpreted, as medical theories and practices changed, and how their material properties allowed this. Finally, I will show how these reinterpretations disconnected the preparations from their makers.

⁴ Teunis Zaaijer, *Het gewigt eener doelmatige ontleedkundige techniek*, Leiden: Hazenberg, 1866; Hidde Justusz. Halbertsma, *Dissertatio historico-medica inauguralis de Antonii Leeuwenhoekii meritis in quosdam partes anatomiae microscopicae*, Deventer: De Lange, 1843. Johann Czermák, who visited the Leiden collections in 1850, described how Halbertsma showed him the microscope. See Johann Czermák, *Gesammelte Schriften*, Leipzig: Engelmann, 1879, vol. 1: p. 174.

⁵ On audiences shaping anatomical collections see Samuel J.M.M. Alberti, 'The Museum Affect: Visiting Collections of Anatomy and Natural History', in *Science in the Marketplace: Nineteenth-Century Sites and Experiences*, ed. Aileen Fyfe and Bernard Lightman, Chicago: University of Chicago Press, 2007, pp. 371–403; Rina Knoeff, 'The Visitor's View: Early Modern Tourism and the Polyvalence of Anatomical Exhibits', in *Centres and Cycles of Accumulation in and around the Netherlands*, ed. Lissa Roberts, Berlin: Lit Verlag, 2011, pp. 155–76.

⁶ On the agency of objects, or material agency, see Bruno Latour, 'Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts', in *Shaping Technology/Building Society*, ed. Wiebe E. Bijker and John Law, Cambridge, MA: MIT Press, 1992, pp. 225–58; Andrew Pickering, *The Mangle of Practice: Time, Agency, and Science*, Chicago: University of Chicago Press, 1995. My interpretation of material agency resembles that of Pickering: the agency of objects is emergent in time and shaped in reaction to the intentions of the human actors involved.

Anatomical Preparations as Medical and Historical Objects

In 1771, Leiden University acquired the collection of Leiden's most famous anatomist, Bernhard Siegfried Albinus (1697–1770). The university governors asked two medical professors, Frederik Albinus (Bernhard Siegfried's brother) and Eduard Sandifort, to write a report on the collection. In this report, Albinus and Sandifort explicitly stated what they considered the main use of the collection: teaching. They wrote, 'The entire collection is used for the physiology and anatomy classes, and thus it follows naturally that the persons by whom and manner in which it can be used best is by the professors of physiology and anatomy, who can elucidate their lessons with the pieces.'⁷ Albinus and Sandifort therefore recommended that the collection be housed close to the anatomical theatre, to have the preparations on hand to show during lectures. The university governors followed their recommendations, and the Anatomical Cabinet was renovated in order to make room for the collection.⁸ Albinus' preparations were neither the first nor the last to be added to the Cabinet. Other major acquisitions were the collections of Brugmans (1819) and Bonn (1822). In the early nineteenth century, the Cabinet contained thousands of anatomical preparations. These were all seen as teaching aids. They were used to help students learn about the body, and to allow them to grow accustomed to working with dead bodies.⁹ In addition to teaching, the collections were also used in research, for example in curator Gerard Sandifort's work on foreign skulls.¹⁰

In both research and teaching, the preparations functioned as *medical* objects. In the early nineteenth century, the preparations acquired another purpose, when they became historical objects used to increase the university's status. Eduard Sandifort and Frederik Albinus hinted at this use in their report, but it did not really take off until after 1815, when Dutch higher education was reformed.¹¹ This does not mean that the collection had not been a status

⁷ Frederik Albinus and Eduard Sandifort, 'Rapport over het kabinet van Albinus', 7 November 1771, cited in P.C. Molhuysen, *Bronnen tot de geschiedenis der Leidsche Universiteit*. 7 vols, The Hague: Martinus Nijhoff, 1913–24, vol. 6: p. 17*. Unless otherwise stated all translations are mine.

⁸ Minutes of university governors' meeting, 21 October 1771, cited in Molhuysen, *Bronnen*, vol. 6: p. 78.

⁹ Hieke Huistra, 'Collecties op college: het gebruik van anatomische preparaten in het negentiende-eeuwse geneeskundeonderwijs aan de Nederlandse universiteiten', in *Van lectio tot powerpoint*, ed. Leen Dorsman and Peter Jan Knegtmans, Hilversum: Verloren, 2011, pp. 25–41.

¹⁰ Gerard Sandifort, *Tabulae craniorum diversarum nationum*, 3 vols, Leiden: Luchtmans, 1838.

¹¹ Frederik Albinus and Eduard Sandifort, 'Rapport over het kabinet van Albinus', 7 November 1771, cited in Molhuysen, *Bronnen*, vol. 6: p. 18*.

symbol before, but previously the collection had increased the university's status mainly because of the high quality of the preparations from a medical point of view, not because of their historical value. This changed after 1815. Until then, Leiden was the Netherlands' top university. It enjoyed international fame, which was due in large part to its eighteenth-century medical faculty, with excellent professors like Herman Boerhaave and Bernard Siegfried Albinus, and well-known, high-quality anatomical collections. But the 1815 educational reforms were intended to unify and standardize, and they thus threatened Leiden's position.¹² One of the consequences of the reforms was that Leiden lost its special status as the first university in the Netherlands. Another consequence was that other Dutch universities acquired high-quality and up-to-date anatomical collections. Leiden's anatomical collections were no longer unique, and the governors therefore had to rebrand them in order to keep using them to distinguish Leiden from other Dutch universities. They did so by stressing the collections' historical qualities, in order to create a connection to the university's glorious past. The governors used this past rhetorically, a common strategy in the early nineteenth-century Netherlands. They aimed to continue the past into the present, suggesting that nothing had changed, and that the university's fame and glory had never disappeared, but had simply continued from the eighteenth century into the nineteenth.

To create a status-enhancing connection to the past, the governors had to take several steps. First, they had to remind their audience of how glorious that past had been. Such reminders were given almost every time the governors mentioned the anatomical collections in the university's annual reports or in their correspondence with the government. They were usually short and often contained Albinus' name. An example can be found in the first annual report the governors compiled after the 1815 decree, in which they explained that, with the new regulations, their collections were no longer fully up to date: 'The name of Albinus, whose cabinet is in the possession of the university, may lead one to suspect much.'¹³ Or, from the 1830 annual report of the university: 'The collection of anatomical preparations, in which the cabinets of Albinus, Brugmans and others have been placed, constantly meet[s] with admiration from many local and foreign scholars.'¹⁴

But simply recalling past glory was not enough to continue the past into the present. Since past glory is in the past, the governors needed to make a convincing case that nothing had changed. They needed to connect the past to

¹² Hieke Huistra, 'Preparations on the Move: The Leiden Anatomical Collections in the Nineteenth Century', PhD diss., Leiden University, 2013, pp. 98–102.

¹³ Annual report of the university 1815–16, file 270, *Archief van Curatoren 1815–1877* (AC2), Leiden University Library.

¹⁴ Annual report of the university 1829–30, file 270, AC2.

the present. The connection they constructed started with a direct relationship: the anatomical collections themselves. Obviously, the collections had a relationship with the past, since the preparations were from the past. The argument ran as follows: the collections were famous in the past; these collections had continued to exist into the present; hence, their fame should also continue into the present.

Subsequently, this relationship with the past was reinforced with the help of other relationships. Elements surrounding the collection, including its curator and its catalogues, were also connected to the past. In the first half of the nineteenth century, anatomy professor Gerard Sandifort was curator of the Leiden anatomical collections. He had succeeded his father Eduard in 1799. The governors used the father–son relationship to connect the nineteenth century to the eighteenth. This is apparent, for example, from the university’s annual report of 1817–18. The governors wrote this report in 1819, when Gerard had been a curator for 20 years. Yet the governors referred to him not by his own name, but as the ‘decent son and worthy successor of the great Sandifort.’¹⁵ Eduard was a well-known curator and his collections were famous. By stressing that Gerard was his son, and his ‘worthy successor’, the governors tried to associate that eighteenth-century fame with the nineteenth-century collections.

Another way to relate the past and the present was the new collection catalogues, published in 1827 and 1835. They were named *Museum anatomicum Academiae Lugduno-Batavae: Volumen tertium* and *Volumen quatum*, to make clear they were sequels to *Museum anatomicum Academiae Lugduno-Batavae: Volumen primum* and *Volumen secundum*, even though the original plan differed from the earlier catalogues, both published in 1793. The earlier volumes had described (almost) all preparations present in the collections, but the third volume would describe only the newly acquired collection of Sebald Justinus Brugmans – and not, for example, the collection of Andreas Bonn, which the university acquired in 1822. It would therefore have been reasonable to present it as a single collection catalogue, not as a sequel to earlier museum catalogues. However, by presenting it as a sequel, the governors again linked the past to the present.¹⁶

The anatomical collections, in particular the Albinus preparations, combined with the curator and the catalogues helped the governors create a status-enhancing connection to the past. Used by the governors in this way, the preparations were first and foremost historical objects. At the same time, however,

¹⁵ Annual report of the university 1817–18, 8 January 1819, file 226, item 4, AC2. Similar descriptions can be found in other annual reports, see for example Annual report of the university 1819, 9 January 1820, file 226, item 3, AC2.

¹⁶ Eventually, the catalogue did contain both the Brugmans and the Bonn collection. This was not in accordance with the governors’ plans, but the Minister of Education demanded that they included the Bonn collection, otherwise he would not pay for the catalogue. Sandifort to governors, 11 May 1823, file 77, item 63, AC2.

the preparations – including the ones from the Albinus collection – were employed in teaching and could be used in research. The collections had a double meaning: they were both contemporary medical objects and historical artefacts. As the century progressed, the preparations lost the capacity to carry this double meaning. They lost the connection to their past and were increasingly separated from their makers. This happened due to the relocation and reinterpretation of the collections, which was necessary to ensure they remained suitable for use in the changing practices of medical research and teaching.

Reusing Old Preparations in New Medicine

In 1860, Leiden University's main anatomical collections moved to a new location. Until then, the anatomy department was housed in an old church building which it had shared with the university library since the late sixteenth century (see Figure 7.1). Now, the department and its collections moved to a newly built educational complex, which they shared with teaching laboratories for physics, chemistry and, later, physiology (see Figure 7.2). The shift from library to laboratories was partly a consequence of changes in medical research and teaching. The combination of anatomy and library, common in the early modern period, became awkward (and, in addition, led to problems due to a lack of space). The growing importance of natural science theories and methods in medical research and teaching made the educational complex with teaching laboratories a more natural environment. The rise of the natural sciences was one of several profound changes in medical research and teaching in the nineteenth century. Another one was the new disciplines that were emerging, including comparative anatomy, pathological anatomy and developmental embryology.¹⁷ Also, the old disciplines of anatomy and physiology transformed completely.¹⁸ The emerging and changing disciplines used different spaces, like

¹⁷ On comparative anatomy see Lynn Nyhart, *Biology Takes Form: Animal Morphology and the German Universities, 1800–1900*, Chicago: University of Chicago Press, 1995. On pathological anatomy see Russell C. Maulitz, *Morbid Appearances: The Anatomy of Pathology in the Early Nineteenth Century*, Cambridge: Cambridge University Press, 2002. On embryology see Nick Hopwood, 'Embryology', in *The Cambridge History of Science*, vol. 6, *Modern Biological and Earth Sciences*, ed. Peter J. Bowler and John V. Pickstone, Cambridge: Cambridge University Press, 2009, pp. 285–315.

¹⁸ Andrew Cunningham, 'The Pen and the Sword: Recovering the Disciplinary Identity of Physiology and Anatomy before 1800. I: Old Physiology – the Pen', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 33, 2002, pp. 631–65; Andrew Cunningham, 'The Pen and the Sword: Recovering the Disciplinary Identity of Physiology and Anatomy before 1800. II: Old Anatomy – the Sword', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 34, 2003, pp. 51–76.

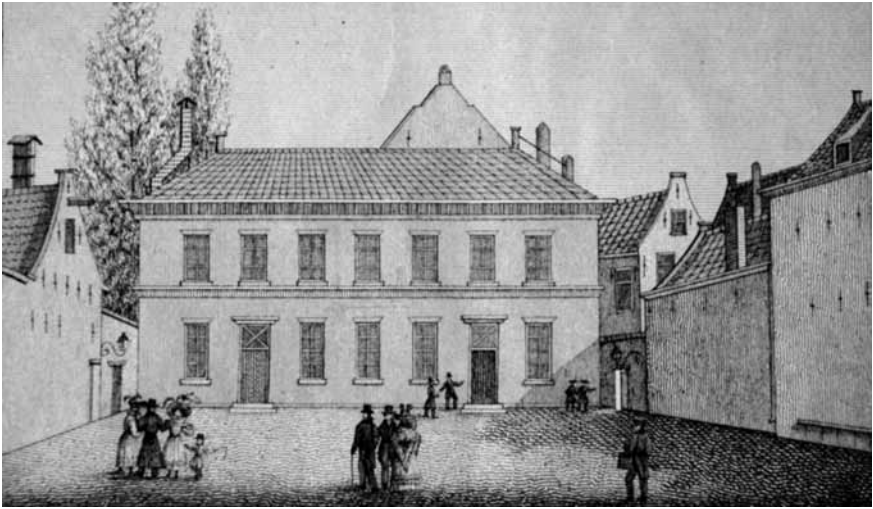


Figure 7.1 Entrance to the Faliedebagijnkerk (Church of the Faille-Mantled Beguines), which housed the anatomical collections until 1860. Courtesy of the University Library Leiden, COLLBN Port 14N 52



Figure 7.2 The teaching complex for physics, chemistry and anatomy, which housed the anatomical collections from 1860 onwards. Photography: J. Goedeljee and Ad. Braun, 1866. Courtesy of Beeldbank, the Leiden Regional Archives

the laboratory and the clinic; different methods, like microscopy; and different concepts, like the cell.¹⁹ Students had to be trained for these new disciplines, methods and spaces. Increasingly, this happened with the practical, hands-on teaching methods that were used in the natural sciences too, as the teaching laboratory gained in importance. Contrary to what is often thought, none of these changes did away with the need for anatomical collections.²⁰ Anatomical collections continued to be used in medical research and teaching – even the older collections, which had been created decades before the described changes took place.

But these older collections needed to be adapted to the new medicine. They needed to be redescribed and reinterpreted, which often required reinvestigation of the preparations. This was done by both collection curators and audiences – in the case of the Leiden anatomical collections after the 1860 move, the latter were mainly researchers and students. An example of continued use of the Albinus collection can be found in the dissertation of medical student Annee Leendert Erkelens, completed in 1902.²¹ Erkelens investigated *retentio dentium*, the impaction of teeth. He used 18 preparations from the Leiden anatomical collections in his research, including a skull from the Albinus collection.²² The skull showed a specific type of impacted teeth: teeth growing backwards. Two teeth in the upper jaw had grown upwards, with the root below the teeth instead of above it. They can be seen in the stereographic photograph of the skull Erkelens included in his dissertation (see Figure 7.3). The skull had been described and depicted before, by Albinus himself in his *Academicarum annotationum*

¹⁹ On the rise of the laboratory in medicine, see Andrew Cunningham and Perry Williams, ed., *The Laboratory Revolution in Medicine*, Cambridge: Cambridge University Press, 1992. On the birth of the clinic, see Erwin H. Ackerknecht, *Medicine at the Paris Hospital, 1794–1848*, Baltimore: Johns Hopkins University Press, 1967; Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, London: Tavistock, 1976. On the growing importance of microscopy, see Jutta Schickore, *The Microscope and the Eye: A History of Reflections, 1740–1870*, Chicago: University of Chicago Press, 2007. On the construction of cell theory, see Henry Harris, *The Birth of the Cell*, New Haven: Yale University Press, 1999.

²⁰ On the continued use of anatomical collections in nineteenth-century medicine, see Samuel J.M.M. Alberti, *Morbid Curiosities: Medical Museums in Nineteenth-Century Britain*, Oxford: Oxford University Press, 2011; Huistra, 'Preparations'; Erin Hunter McLeary, 'Science in a Bottle: The Medical Museum in North America, 1860–1940', PhD diss., University of Pennsylvania, 2001; Jonathan Reinartz, 'The Age of Museum Medicine: The Rise and Fall of the Medical Museum at Birmingham's School of Medicine', *Social History of Medicine*, 18, 2005, pp. 419–37.

²¹ Annee Leendert Erkelens, *Retentio dentium*, Leiden: IJdo, 1902.

²² 'Preparation of skull', Leiden, Anatomical Museum, Leiden University Medical Center, Ab0189.

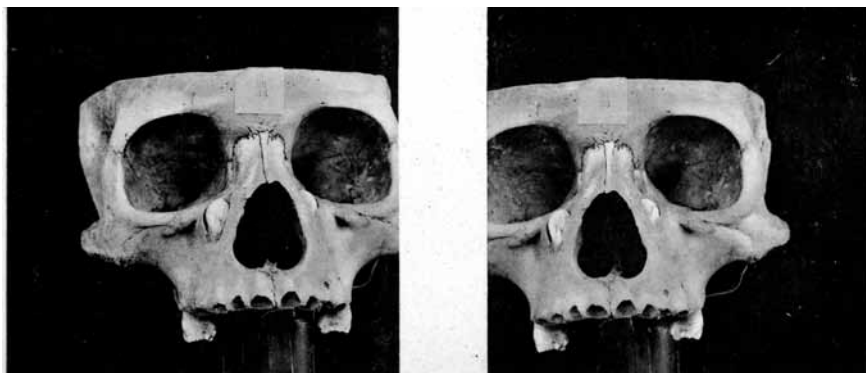


Figure 7.3 Stereographic photograph of a skull from the Albinus collection, depicted in Annee Leendert Erkelens, *Retentio Dentium*, Leiden: IJdo, 1902. Courtesy of the University Library Leiden, DISL 1902: 24

and by Eduard Sandifort in the first volume of the *Museum anatomicum*.²³ Erkelens was aware of Albinus' description: he included it in his dissertation. (He probably also knew about Sandifort's description, which was a summary of Albinus', but he does not mention it.) However, for his research, Erkelens needed to know more than the earlier descriptions of the preparation revealed. In particular, he wanted exact measurements – like the distance from the teeth to the body's median plane, which is 15 mm for the impacted tooth at the right and 10 mm for the one on the left. Describing anatomies and pathologies with the help of such exact numbers had become common in the second half of the nineteenth century. It is not surprising, therefore, that Erkelens wanted such precise measurements. Nor is it any surprise that Albinus and Sandifort did not provide them. Erkelens had to gather this information himself, and he had no problems doing so: he simply reinvestigated the preparation. He not only took measurements, he also tested whether or not the teeth could move (the right one did, the left one was almost immobile).

Reuse of old preparations was not limited to the Albinus collection, but happened with other collections as well, both in and outside Leiden.²⁴ Some

²³ Bernhard Siegfried Albinus, *Academicarum annotationum*, vol. 1, *Anatomica, physiologica, zoographica, phytographica*, Leiden: Verbeek, 1754, pp. 54–5, 90–91; Eduard Sandifort, *Museum anatomicum Academiae Lugduno-Batavae*, vol. 1, Leiden: Luchtmans, 1793, p. 86, entry CCCXLVII.

²⁴ Erkelens himself, for instance, also used a preparation from the collection of Sebald Justinus Brugmans (1763–1819); see Erkelens, *Retentio dentium*, 11–12, preparation XIV. For more examples of reinterpreting old preparations, in particular from the Leiden collections, see Huistra, 'Preparations', pp. 42–65.

reinvestigations went much further than simply taking new measurements and wiggling teeth to see whether they moved. They regularly involved preparations being redissected, for example when researchers wanted to investigate the microscopic structure of macroscopic preparations of pathologies. This reflected the changes in medicine: in the eighteenth century, pathology had mainly involved looking at the gross structure, but during the nineteenth century pathologists became interested in ever smaller structures.²⁵ The old preparations were not intended to show these structures, but researchers could easily extract this information from them nonetheless. Leiden curator Hidde Halbertsma, for instance, microscopically reinvestigated macroscopic preparations of teeth made by Sebald Brugmans decades earlier.²⁶ In an example from elsewhere, the pathological collection catalogues and the museum curator's annual reports at the Royal College of Surgeons of England regularly mention microscopic re-examination of older macroscopic preparations.²⁷

Reinterpretations of old preparations were carried out by both collection curators and audiences. The main audiences of the Leiden collections after 1860 were students and researchers who, like Erkelens, reused individual preparations to answer specific research questions. The Leiden curators reinterpreted the collections on a larger scale. After the move in 1860, the collections were rearranged and reclassified; this required reinterpretation of the majority of the preparations. Of course, the rearrangement and reclassification were guided in part by the wishes of students, teachers and researchers, and thus the audiences were also involved in these reinterpretations.

Through these reinterpretations, curators and audiences changed the fate of the collections. They prolonged their use in research and teaching, while at the same time – as we will see below – impeding the use of preparations as historical objects. But curators and audiences could never have completed the reinterpretations if the collections had not allowed them to. Their reinterpretations depended on the collections (and the objects in them) being sufficiently flexible. This flexibility depended directly on the material properties of the collections. In particular, with anatomical collections, the fact of whether the objects in the collections are preparations or models is vital, because of a

²⁵ Maulitz, *Morbid Appearances*.

²⁶ Hidde Justusz. Halbertsma, *Bijdrage tot de ziektekundige ontleedkunde der tanden*, Amsterdam: Van der Post, 1855.

²⁷ See, for example James Paget, *Descriptive Catalogue of the Pathological Specimens Contained in the Museum of the Royal College of Surgeons of England*, vol. 4, *Morbid Conditions of the Urinary Organs, of the Nervous System and Organs of Special Senses, of the Generative Organs and Breast, and the Anatomy of the Stumps*, 2nd ed., London: Churchill, 1885, preface and individual object descriptions, for example number 3589, p. 29; Annual report of the conservator to the museum committee 1890–91, 29 June 1891, p. 2, file RCS-MUS/8/2/2, London, Royal College of Surgeons of England.

fundamental material difference between the two, pointed out by philosopher of biology Hans-Jörg Rheinberger: preparations are *made of what they represent*; models (and other anatomical representations, like drawings) are not.²⁸ More specifically: a model of a kidney is made of papier-mâché, or wax or plastic, while a kidney preparation is made of kidney.²⁹ This peculiar material property turns preparations into very flexible objects, because it becomes possible for researchers to ‘go back’ to the original object and extract new information from it – which is what happened when Erkelens measured the skull and wiggled the teeth, or Halbertsma microscopically examined macroscopic preparations.³⁰ None of this would have been possible if the Leiden anatomical collections had consisted mainly of models instead of preparations – no matter how much the curators and audiences might have wished. In other words, anatomical collections play a part in shaping their own fate. The material properties of the collections determine what the curators and audiences can and cannot do with them.

Curators and audiences can do a lot with collections consisting of preparations. As we have seen, preparations are very flexible objects. This flexibility enables prolonged use in research and teaching, but it also hinders the use of preparations as historical objects. The plans of the governors, who wanted to use the collection’s past to increase the university’s status, met with growing resistance from the collections themselves. The flexibility of the preparations threatened the connection between the preparations and their makers, which was essential if they were to be used for historical purposes. In Leiden, many preparations lost this connection after the 1860 move and accompanying rearrangement, they thereby also lost their double meaning: they were no longer simultaneously historical and medical objects.

Preparations Disconnected from their Makers

In the early nineteenth-century Anatomical Cabinet, preparations were strongly linked to their makers. Users only had to read the label to find out who made

²⁸ Hans-Jörg Rheinberger, ‘Präparate – “Bilder” ihrer selbst: Ein bildtheoretische Glosse’, in *Oberflächen der Theorie*, Bildwelten des Wissens: Kunsthistorisches Jahrbuch für Bildkritik, vol. 1.2, Berlin: Akademie Verlag, 2003, pp. 9–19; Hans-Jörg Rheinberger, *An Epistemology of the Concrete: Twentieth-Century Histories of Life*, trans. G.M. Goshgarian, Durham: Duke University Press, 2010, pp. 233–43.

²⁹ However, a kidney preparation is made not solely of kidney, but also, for example, of injection mass and preparation fluid. This may complicate its reinterpretation – but it is still easier to reinterpret than a model.

³⁰ Rheinberger mentions this flexibility – which he calls ‘the permanent possibility of their epistemic recall’ – in passing, but does not investigate its consequences in the way I do here. Rheinberger, *Epistemology*, p. 238.

a preparation. Curator Gerard Sandifort, who used the same labels as his father Eduard, wrote three things on the labels: the catalogue number, a description of the object and the name of the maker (or, sometimes, the collector).³¹ The catalogue number referred to the descriptions in the four volumes of the *Museum Anatomicum*. In these volumes, the Sandiforts described collections by different makers separately. A skull prepared by Albinus was described in the part on dry preparations in the Albinus collection; a similar skull collected by Brugmans was described elsewhere, together with the other skulls from the Brugmans collection. However, it is possible that both skulls were nonetheless placed next to each other on a shelf for display, as we do not know to what extent the classification system used in the catalogues was reflected in the preparations' actual arrangement. In his preface to the *Museum's* third volume, Gerard Sandifort seems to suggest that the collections were at least partly mixed together:

When the Museum was enlarged so splendidly, it had to be rearranged and reordered; since it was made up of separate collections, of Rau, Albinus, Van Doeveren, Ledebouer, Rocquette, Brugmans and Bonn, it had to be properly ordered and be given its own face and character, as it were. And thus I put together everything that had been separated until then and I made sure that, while everything went according to an uninterrupted system, each preparation had a number and the name of the collection from which it was taken.³²

The 'uninterrupted' system Sandifort talks about was *not* the classification system used in the *Museum anatomicum*. That was strictly divided: each collection had its own classification system, more or less systematic; the classification systems of different collections are based on different categories. But if the catalogue's system is not the 'uninterrupted' system, then the system in which the preparations were arranged ('*disponendum*') has to be. Yet, even in this 'uninterrupted' arrangement, the individual collections remained recognizable, Sandifort claims. Travel journals report that visitors could indeed distinguish between preparations made by different anatomists. Take for example the account by Wilhelm Horn, a German doctor. Horn offers a detailed four-page list of objects visible in the Anatomical Cabinet, including 'many vessel injections

³¹ Elshout, *Leidse kabinet*, p. 11. The Sandiforts used the name of the anatomist who had built the collection. Usually, this anatomist was both the maker and the collector of the individual preparations; in the eighteenth century, anatomists tended to make their own preparations. This certainly applies to the Albinus collection. In some of the other collections, for example the Brugmans collection, not all preparations were made by the collectors, so strictly speaking some of the preparations were connected not to their makers but to their collectors. Either way, however, they were connected to their past. Since the vast majority of the preparations were connected to their makers, I use 'maker' instead of 'maker or collector'.

³² Gerard Sandifort, *Museum anatomicum*, vol. 3, Praefatio, p. 4.

by Albinus – A single preparation by Ruysch, an injected child's head. Next, many preparations together, of Bonn, Brugmans, Sandifort and Rau. – Injected organs of all kinds. – Stones, bladders, in particular by Van Doeveren: lymph-vessels, milts, livers; injected.³³

Horn was able to identify the makers of the preparations. He suggests that he had seen several injection preparations by Albinus put together; and that preparations made by Bonn, Brugmans, Sandifort and Rau were also grouped. Other visitor reports also regularly list individual collections, showing that the visitors had at least learned that the Cabinet housed the collections of various anatomists.³⁴ We do not know whether these collections were kept strictly separate – probably not, considering Sandifort's remark. But even if they were to a certain extent mixed together, the connection between preparations and their makers was clear: in the catalogues, on the labels, and possibly (partly) in their actual arrangement.

After the move in 1860, the clues that connected the preparations and their makers disappeared. Curator Hidde Halbertsma used the move to rearrange the collections completely. To Halbertsma, the collections were first and foremost research and teaching aids.³⁵ Soon after his appointment in 1848, he decided that a new arrangement and a new classification system were necessary because the old ones were no longer up to date. Halbertsma acquired catalogues from the museum of the Royal College of Surgeons of England to use as an example.³⁶ He implemented his new classification system after the move. Preparations deemed irrelevant in the new system were discarded; the remaining preparations were put in their proper place on the shelves.³⁷ The preparations also needed to be relabelled and redescribed, a task Halbertsma started; but it would take over 30 years and two more curators until it was more or less finished. The museum inventory created in 1892 by curator Teunis Zaaijer gives us a good overview of what the arrangement looked like by then. The inventory lists the preparations by cupboard and shows that classification system and arrangement coincided.

³³ Wilhelm von Horn, *Reise durch Deutschland, Ungarn, Holland, Italien, Frankreich, Großbritannien und Irland; in Rücksicht auf Medicinische und Naturwissenschaftliche Institute, Armenpflege u. s. w.*, 4 vols, Berlin: Enslin, 1831–34, vol. 1: p. 360.

³⁴ See for example A.B. van Meerten, *Reis door het Koninkrijk der Nederlanden en het Groothertogdom Luxemburg, voor jonge lieden*, 5 vols, Amsterdam: Schalekamp en Van de Grampel, 1822–29, vol. 5: p. 304; John MacGregor, *My Note Book*, 3 vols, London: John Macrone, 1835, vol. 1: p. 168; Joseph Guislain, *Lettre médicale sur la Hollande, adressé à MM les membres de la Société de Médecine de Gand*, Gand: Gyselynck, 1842, p. 91.

³⁵ Senate to governors, 1 February 1854, file 119, item 138, AC2.

³⁶ Annual report of the Anatomical Cabinet 1854–55, file 270, AC2.

³⁷ Halbertsma started (but never finished) making a catalogue based on his new system. Until recently, this catalogue was in the archives of the Leiden Anatomical Museum, but unfortunately, it is unclear where it is now. Its most likely location is a collection of uncatalogued archive materials housed in Leiden University Library.

The preparations were grouped together systematically, first by field of study (general anatomy, pathology, anthropology) and then by organ system. If we look for the Albinus skull with the malformed teeth used by Erkelens, we find it in room 11, cupboard KLM in the section ‘human teratology’ as one of ‘22 dry preparations (malformations of skull bones and teeth).’³⁸ Albinus’ name is not mentioned in the inventory, nor are the names of Brugmans, Bonn and the other Leiden anatomists.³⁹ The individual collections were fully integrated: skulls were put with skulls; hearts with hearts; ears with ears – no matter who made them, if they displayed the same body part, organ system or disease, preparations were put together. The new labels on the individual preparations also no longer showed the name of the maker, only a description and a catalogue number.⁴⁰

In the new arrangement and with the new classification, the preparations became first and foremost medical objects. The individual behind the collections had become hard to recognize; the preparations had lost their past. This posed a problem for the governors: without a connection to the past, the collections could not function as a status symbol, because their medical quality was not sufficient to distinguish Leiden from other universities. Indeed, in the second half of the nineteenth century, all attempts to continue the past into the present disappeared from the governors’ references to the anatomical collections. They still reported to the government on the collections (they were legally obliged to), but they never mentioned Albinus’ name.⁴¹ The collections, including the Albinus collection, lost their capacity to be historical and medical objects at the same time.⁴² The Albinus collection was split up: first by being mixed with other collections and later by being partly moved to the pathological laboratory.⁴³

³⁸ Teunis Zaaier, ‘Inventaris der verzameling in het anatomisch kabinet van de Rijks Universiteit te Leiden’, 1892, p. 31. Leiden, Anatomisch Museum, Leiden University Medical Center, (no inventory number).

³⁹ Zaaier does single out one maker though: Frederik Ruysch, one of whose preparations was present in the Leiden collections. *Ibid.*, p. 6.

⁴⁰ For an overview of the labels used in the nineteenth century, see Elshout, *Leidse kabinet*, p. 11.

⁴¹ The annual reports from the second half of the nineteenth century can be found in Files 271–3, AC2; and in files 1552–9, Archief van Curatoren 1878–1953, Leiden University Library.

⁴² The anatomical preparations not only lost their past, they also lost the stories and morals associated with them. In the early modern and early nineteenth-century Anatomical Cabinet, preparations were presented with moral stories about the people they once were, which made them understandable and attractive to lay visitors. With new ideas on research and teaching, including the idea that ‘scientific’ was incompatible with ‘interesting to lay visitors’, and the new arrangement, these stories disappeared. For an investigation of this process, see Huistra, ‘Preparations’, pp. 66–92.

⁴³ Twentieth-century medical historian Antonie Elshout retrieved two Albinus preparations from the pathological anatomy department. They were probably moved there in

This does not mean that no one knew the collections contained preparations made by famous anatomists from the past. Individual preparations were reconnected to their past from time to time. As we have seen, Erkelens referred to Albinus when he used his preparation – although he did so in a purely medical fashion, not to stress the historical properties of the preparation. Other researchers did the same. Later on, individual preparations were also reconnected to their makers to stress their historical value, first a couple of preparations that were used in two short medical-historical exhibitions, then on a somewhat larger scale, when Geyskes cleared out the old cabinet and later, when Antonie Elshout extended his work in the 1950s.⁴⁴ In the early nineteenth-century Cabinet, all of the thousands of preparations on display were connected to their makers; they were all medical and historical objects at the same time. In the twentieth century, only a couple of hundred preparations were reconnected to their maker. These then became mainly historical objects, set aside from the medical objects used in research and teaching.

Many of the preparations had had to say a final ‘adieu’ to their makers. The curators and audiences of the second half of the nineteenth century reinterpreted them to suit the changes in research and teaching, and thereby changed their fate forever. But they could never have done this without the help of the preparations themselves. The preparations, being flexible objects because they were made of what they represented, facilitated reinterpretation. This does not mean collections determine their own fate – they cannot. But they do influence it: they shape it together with their curators and their audiences.

1885, when a large set of pathological preparations was moved from the anatomy department to the new pathology laboratory. See Elshout, *Leidse kabinet*, p. 21.

⁴⁴ The preparations used in the exhibition can be found in the catalogues, Evert Cornelis van Leersum, François Martin Gérard de Feyfer and Philipp Christiaan Molhuysen, *Catalogus van de geschiedkundige tentoonstelling van natuur- en geneeskunde, te houden te Leiden 27 maart – 10 april 1907, ter gelegenheid van het elfde Nederlandsch natuur- en geneeskundig congres*, Leiden: Sijthoff, 1907; Jan Gerard de Lint and Jan Boeke, *Catalogus van de tentoonstelling over oude anatomie, te houden te Leiden, januari 1915, ter gelegenheid van de herdenking van den geortedag van Andreas Vesalius*, Gorinchem: Horneer, 1914. Geyskes’s work was mentioned at the beginning of this chapter; for Elshout’s project see Elshout, *Leidse kabinet*.

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