Chapter 3. Dead Body in the Closet

How lay visitors disappeared from the Leiden Anatomical Cabinet

Let me offer you some practical advice: never marry off your daughter to an old man she detests, however rich he is. It will leave you with nothing but monstrous grandchildren. This rule-of-thumb was known in the early nineteenth century already; its proof could be found in the Leiden Anatomical Cabinet. In the Cabinet, the product of such a marriage was on display: the preparation depicted in figure 8. The child, a boy, was the son of an exquisitely beautiful woman who had been forced by her parents to marry a senile usurer. The usurer horrified the girl, but he was wealthy and therefore pleased the parents. The marriage was as short as it was unhappy: seven short months after the ceremony, the woman and her baby died in child birth. Their child did not look like a child, but like an old man. And not just any old man – he was a perfect miniature image of his father, in every wrinkle, as was explained on a tablet hanging next to the preparation that was made of the boy.[1]

Figure 8. The son of a beautiful woman and a senile usurer, depicted in the Museum Anatomicum.

[1] *Billets* 1818, 51–52

The tale on the tablet helped early nineteenth-century lay visitors of the Cabinet to make sense of the preparation. For them, the preparation functioned as marriage advice. Nowadays, for the modern viewer, this is no longer the case. Although doctors still believe that old fathers increase the risk of malformed children,[2] the preparation of the wrinkled boy can no longer be used to warn lay visitors of this risk. This has two reasons. First, visting the Leiden anatomical collections has become very difficult for those who are not (future) doctors. And second, even if you would get into the Anatomical Museum and find the preparation (now in storage), you would not learn about its parents. There is no tablet, label or guide telling the tale, and the object description in the museum's database does not mention it either. Not only has the preparation become almost unreachable for lay audiences, it has also been detached from the original marriage story.

The Leiden anatomical collections have lost their accessibility – and they are not the only ones. Many present-day institutional anatomy collections that are open to the public in principle can be quite hard to access in practice. They are often housed in university hospitals and laboratories, spaces that are more difficult to enter than the average art museum. Furthermore, preparations are regularly presented in a medical context: no stories about unhappy marriages to which the casual visitor can easily relate. How did anatomical collections end up in such closed spaces, detached from everything but medical information? This chapter provides an answer to this question by using the example of Leiden University's main anatomical collections, those in the Anatomical Cabinet. I intend to show how they have changed from approachable to closed, from interpretable to unintelligible, and from popular to rarely visited. These changes are tied to the collections' move and rearrangement in 1860. But move and rearrangement were not the ultimate causes: they were themselves consequences of changing practices and attitudes in medicine, as we will see.

The Anatomical Cabinet until 1860: open to all

Like all proper tourist destinations, mid-nineteenth-century Leiden had a beaten track. Dutch author Nicolaas Beets (1814–1903) sketches a lively image of this track in his *Camera Obscura* (1851):

> On this rainy October day, Hildebrand could be seen running through Leyden's streets together with a stranger, on their way to visit first the dead animals in the museum for natural, and then the dead pharaohs in the museum for unknown history; and to subsequently take a look at Anatomy's little children who never lived, and then at the portraits of dead professors who will live forever in the senate hall … In order to establish some variety, we subsequently visited the Burcht [a fortress], which is a corpse itself, occupied by the Romans in earlier times; ADA; and the chamber of rhetoric to which so many geniuses belonged. To conclude we went and saw Mr

[2] Kong et al. 2012; see also for example Orioli et al. 1995 and Tolarova et al. 1997.

> Siebold's Chinese and Japanese furniture, and finally we reposed at the student association building Minerva.[3]

Many of the sights mentioned were linked to the university: the Senate Hall and the Anatomical Cabinet of course, but also the Museum for Natural History, the Museum of Antiquities and Minerva, the student association building. To its visitors, Leiden was first and foremost a university town (just as it was to its inhabitants, for that matter).

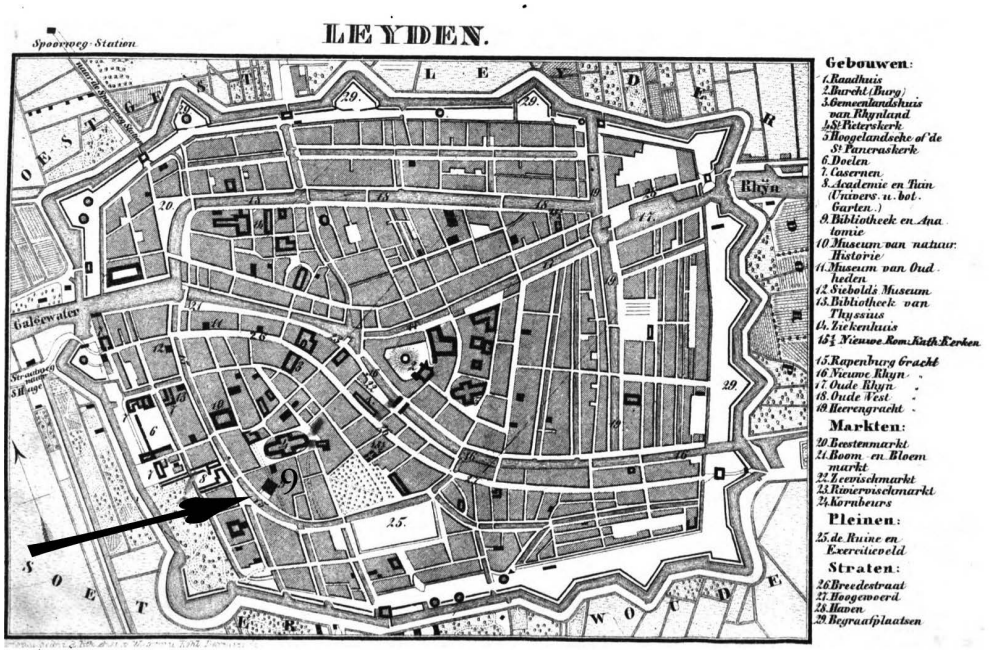

Figure 9. Mid-nineteenth-century map of Leiden from the Baedeker travel guide, with the Anatomical Cabinet (nr. 9).

The university-related sights were all located in each other's vicinity, on or near Leiden's prettiest canal: the Rapenburg. Figure 9 is a travel guide map showing Leiden's main landmarks. Number 9 is the old Faliede Bagijnkerk (Church of the Faille-Mantled Beguines), which housed the Anatomical Cabinet until 1860. The Cabinet shared the building with the university library, as it had from the late sixteenth century onwards. To us, the combination of books and bodies might seem peculiar, but back then, it was not unusual. In the Netherlands, the anatomy departments at the universities of Groningen, Franeker and Harderwijk also shared a place with the library.[4] The reasons were partly practical: a lack of space forced young universities to combine diverse institutions. But this was not the full story, because as the universities grew, and more space became available,

[3] Hildebrand 1851, 116–117
[4] Zuidervaart 2007, 15–16

nobody felt the need to separate anatomy from library – at least not until halfway through the nineteenth century.

Until around 1850, the Leiden curators considered the combination of anatomy and library as natural. The early modern Leiden anatomical collections, anatomical theatre and university library were also closely intertwined with the botanical garden and its collection of rarities. A striking example of how books and bodies belonged to the same category is the American crocodile which appears between books on one of the library's lists of aquisitions.[5] The crocodile and other natural-historical and anatomical objects belonged to the 'book of nature'. Nature was considered one of the two books of God. As we read in the *Belydenisse des gheloofs* ('Confession of the Faith', 1619 edition), one of the documents that founded the Dutch reformed doctrine:

> We know Him by two means. Firstly by the creation, maintenance and reign of the whole world, since the world is before our eyes as a wondrous book, in which all creatures big and small are as letters which give us to behold the invisible things of God … Secondly, He makes himself known even clearer and more fully by His holy and divine word.[6]

Anatomical collections were considered a chapter in the book of nature, as were other types of collections of natural objects – not just in Leiden, but across Europe.[7] An example of the extensive use of the metaphor is the following quotation by Robert Hooke. Hooke, curator of the London Royal Society's collections from 1662 to 1703, wrote:

> It were therefore much to be wishht [*sic*] for and indeavoured [*sic*] that there might be made and kept in some Repository as full and complete a Collection of all varieties of Natural Bodies as could be obtained, where an Inquirer might … peruse, and turn over, and spell, and read the Book of Nature, and observe the *Orthography*, *Etymolgia*, *Syntaxis*, and *Prosodia* of Nature's Grammar, and by which, as with a Dictionary, he might readily turn to find the true Figure, Composition, Derivation, and Use of the
>
> Characters, Words, Phrases and Sentences of Nature written with indelible, and most exact, and most expressive Letters, without which Books it will be very difficult to be thoroughly a *Literatus* in the Language and Sense of Nature.[8]

Both nature and Bible could be 'read'; both were objects of exegesis. Anatomists researching preparations and philologists analysing manuscripts carried out the same activity: they deciphered a text. Of course, their reading methods differed. Instead of literally reading the words, anatomists handled and redissected their texts – the book-of-nature metaphor does not contradict the hands-on use of anatomical preparations. But whereas reading methods differed for both types of books, organizing methods were similar. Both preparations and publications (as well as manuscripts) had to be described, classified,

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[5] Jorink 2006, 287

[6] Bakhuizen van den Brink 1976, 73; translation taken from Huisman 2009, 57–58.

[7] On the book-of-nature metaphor in the Dutch Republic, see Jorink 2010. On the use of metaphor by early modern Leiden anatomists, see Huisman 2009.

[8] Hooke 1705, 338

accessioned, placed and catalogued.[9] Together, the idea of the book of nature and the similar ordering practices made the combination of library and anatomy natural to Leiden University's governors and curators.

For tourists, the combination of library and Anatomical Cabinet was convenient: they could visit two major sights in one building. And, even more convenient, the building was located in the town's centre, making it easy to reach. It was also easy to enter. Figure 10 shows the front of the building after the renovations of 1819–1822. Behind the left door was the Anatomical Cabinet; behind the right door were stairs leading up to the library.

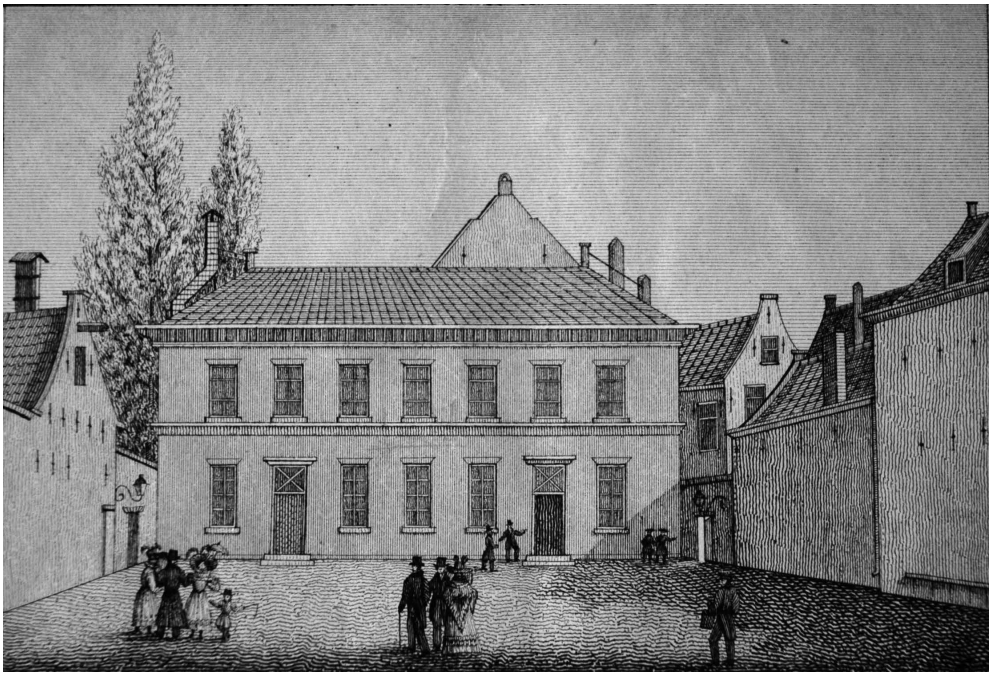

Figure 10. Entrance to the Anatomical Cabinet in the Faliede Bagijnkerk.

In 1850, both doors opened for attendees of the fifth Dutch rural-economical congress, which took place in Leiden. At the request of the congress organizers, the university governors had requested all collection conservators to grant congress participants 'free access'.[10] However, they did not specify what they meant by 'free': free as in free speech

[9] For seventeenth- and eighteenth-century catalogues of the Anatomical Cabinet, see Witkam 1980. Seventeenth-century library catalogues are listed in *Leidse universiteit* 1975, 141–142.
[10] Minutes governors, 8 February 1850, AC2 36, p. 14

or free as in free beer – as software developer Richard Stallman likes to put it.[11] Anatomical curator Halbertsma, slightly irritated by the demand, wrote to the governors to request clarification:

> I have to honour of letting Your Highly Esteemed Dignitaries know that the Museum Anatomicum is open to all and on every day. I call it 'free entrance' if a Cabinet can be visited by ringing at its door or by reporting to the custos, who lives right next to the building, and so I state that I do not understand what purpose the proof of attendance of the Rural-Economical Congress should serve.
>
> However, if the organizers of the above-mentioned Congress understand 'free entrance' as not paying 10 or 25 cents to the custos, I feel obliged to stand up for his interests. Tips from visitors to the Museum Anatomicum are a substantial part of his income, and hence it would be an unpleasant disappointment if they were withheld from him on this occasion, especially if one realizes that the congress participants will not hesitate to spend considerably higher sums of money on less scientific purposes during the three conference days.[12]

Halbertsma suggested placing a box at the entrance to the Cabinet, so that every congress visitor could donate a small amount. But within a few days, he withdrew this proposal and asked tthat he governors act as if they had never received his letter.[13] For our purposes here, the withdrawal is irrelevant. Whatever happened in the end during the rural-economical congress, the letter reveals what the daily routine was: the Anatomical Cabinet was open to all, at a small cost. Opening hours were wide: Halbertsma writes it was open 'on every day'. We cannot be completely sure this included Sundays: according to the student almanacs, the Cabinet was closed on Sundays. During opening hours, one could gain access by simply ringing the bell, or, if nobody answered, by knocking on the door of the neighbouring house where the custos lived. Recommendation letters and prior arrangements were unnecessary: Halbertsma stated in his letter that he did not understand what purpose the congress pass would serve, since the Cabinet was open to all anyway. It had always been that way: from their foundation in the late sixteenth century onwards, the Leiden anatomical collections had been a major tourist attraction, easy to access.[14]

Rina Knoeff has described the early modern Leiden anatomical collections as 'visitable', a notion she has borrowed from Bella Dicks.[15] A visitable place is, as Dicks puts it, 'somewhere to go'.[16] It is a *destination* – and that is indeed what the old Cabinet was. To become a destination, or to be visitable, a collection needs to be accessible in more than one sense. It needs to be both *approachable* and *interpretable*. An approachable collection is a

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[11] The ambiguity nowadays no longer exist in Dutch – the word '*vrij*' (which was used by the governors) nowadays is equivalant to the French '*libre*', referring to 'free as in free speech'; for 'free as in free beer' (the French '*gratuit*'), the word '*gratis*' is used.
[12] Halbertsma to governors, 4 April 1850, AC2 113, 81
[13] Halbertsma to governors, 4 April 1850, AC2 113, 81 (remark written on the letter)
[14] Knoeff 2011
[15] Knoeff 2011; Dicks 2003
[16] Dicks 2003, 1

collection that is easy to enter, which was the case with the pre-1860 Leiden anatomical collections. As we will see, they were also interpretable, which means that visitors could easily engage with them and make sense of them. I chose the word 'interpretable' to denote this kind of accessibility because it indicates visitor agency more clearly then, for example, 'intelligible'. Visitors did not just passively take in what was told to them; they actively constructed their own interpretation, as we will see now.

One such visitor was an anonymous British military man who wrote about the Cabinet in one of his letters home. These letters were later published under the title *Billets in the Low Countries, 1814–1817*. He recalls the above-mentioned story about the monstrous child of the beautiful woman and the old usurer. Moreover, he adds his own experience with the preparation in the Cabinet. His account shows that he was both physically and emotionally close to the preparation.

The military man tells us that 'by means of a glass you can trace every wrinkle, and verify every property of age'.[17] Apparently, visitors were invited to come close and engage with preparations, in this case to verify for themselves that it had indeed all the characteristics of an elderly man. This put them close to the preparation physically, albeit not as close as researchers and students, who could remove such preparations from their jars. We do not know whether visitors were allowed to handle preparations the way students and researchers did. It is not unthinkable: it happened earlier, and in other places. Rina Knoeff has argued that in the seventeenth-century cabinet of Amsterdam anatomist Frederik Ruysch, visitors may have been allowed to touch and hold anatomical preparations.[18] A nineteenth-century example can be found in mid-nineteenth-century Vienna. Here, comparative anatomy professor Carl Brühl lectured to a broad audience, including many women. Brühl let them handle preparations, as the following reports from the *Wiener Medizinische Wochenschrift* demonstrate:

> Some of the ladies, who until now had been satisfied only with the finest perfumes, heroically ignored completely the alcoholic stench of a brain of a fellow human being hardened in the strongest alcohol, to be able to scrutinize its complex surface more accurately with their own delicate fingers.[19]

And, a year earlier:

> At last the most delicate ladies held the human brain parts in their hands as courageously as any medical student.[20]

Collection visitors are not passive recipients of information; they actively interpret what they see (and touch, and smell, and hear). They add their own knowledge and experiences to the presented objects – something Samuel Alberti has called 'the museum

[17] *Billets* 1818, 52
[18] Knoeff (forthcoming)
[19] 'Professor Brühl's' 1866, 116; translation taken from Buklijas 2005, 155
[20] 'Notizen' 1865, 508; translation taken from Buklijas 2005, 155

affect'.[21] The author of *Billets*, for example, first describes the preparation of the monstrous child, then tells the story of the marriage, and finally reflects upon this story and the preparation, creating his own interpretation:

> This corporeal resemblance of the father, in the shape of this little prodigy, seems to have been flung upon the world by indignant nature to shame those who would defeat her purposes by a rebellious opposition to her laws. … It would certainly serve as a clue to ascertain why matrimony is so often the source of misery. Some blame fortune, others destiny; but all forget the share which policy has in the contrivance.[22]

The author used his ideas on nature and marriage to make sense of the preparation. But he was only able to do so because he had been offered the story about the parents of the monstrous child. That story enabled him to engage with the preparation not just physically (by looking at it closely), but also emotionally.

Early modern visitors of the Leiden collections engaged with the preparations in similar ways as the author of *Billets*. They interacted with the preparations both physically and emotionally, but they were only able to do so because of the stories offered to them by the collection's catalogue and tour guides.[23] The stories made the preparations interpretable. Take for example the skeletons in the anatomical theatre. Without context, skeletons were not very interesting preparations – they could be seen everywhere, and they all looked alike. Visitors needed a point of departure to interpret each skeleton individually. In Leiden, the skeletons were made sense of through the crimes committed by the people they had once been. These crimes were even narrated in the collection's catalogue, which listed for example 'the Sceleton of an Asse upon which sit's a Womam [*sic*] that Killed her Daughter'; 'the Sceleton of a Man, sitting upon an ox executed for Stealling of Cattle'; and 'a young thief hanged being the Bridegom whose Bride stood under the gallows, very curiously set up in his ligiments'.[24] The crimes individualized the skeletons. Furthermore, many of the skeletons carried banners with Latin phrases like *Nascentes morimur* (From the moment we are born, we die), *Nosce te ipsum* (Know thyself), and *Mors ultima linea rerum* (Death is the final limit of all things). In this context, it became possible for visitors to interpret the otherwise very similar (and rather boring) skeletons in an individual and exciting way.

In short, from the late sixteenth to the early nineteenth century, the Leiden anatomical collections were both approachable and interpretable: visitors could easily enter the building, they could get physically close to the preparations, and they could relate to the preparations emotionally and intellectually – although lay visitors had no medical knowledge, it was easy for them to make sense of the preparations.

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[21] Alberti 2007
[22] *Billets* 1818, 52–53
[23] Knoeff 2011
[24] Blancken 1697, 4, 5, 10

This made the Cabinet remarkably accessible compared to other types of collections at the time. In his canonical book *The Birth of the Museum*, Tony Bennett describes early modern collections as 'socially enclosed spaces to which access was remarkably restricted'.[25] This view of collections as 'remarkably restricted' in no way fits the early modern Anatomical Cabinet. This can partly be explained because Bennett writes about European collections in general and British collections in particular, and understandably pays no attention to the specifics of the Dutch situation, which seems to have been quite different: most types of collections were more open than the ones Bennett describes.[26] But even for Dutch standards, the Anatomical Cabinet was remarkably open. Many of the (privately owned) art collections in the Republic were open to a select audience only.[27] And collections accessible to wider audiences often had more limited opening hours than the Anatomical Cabinet. In 1774, stadtholder William V opened his collections to the public, but not every day, and only between eleven and one o'clock.[28] Furthermore, gaining access was often more difficult than simply ringing the bell: in Teylers Museum (founded in 1784), for example, every visitor required a billet – and approval – from the board of trustees beforehand.[29]

Interestingly enough, the anatomical collections in Leiden were not the only ones open to a broad audience. Other Dutch cities with accessible anatomical collections (often housed in anatomical theatres) included Amsterdam, Delft, Dordrecht, Rotterdam, Utrecht, Franeker and Middelburg.[30] Outside the Low Countries, accessible anatomical collections could be found in Copenhagen, Altdorf, and Oxford, among others.[31] Their accessibility seems remarkable when considered from the history of collections, but it becomes understandable once we look at them as part of the history of anatomy. The discipline of anatomy welcomed non-medical audiences long before universities started building significant anatomical collections, at its public dissections. The first European public dissection we know of took place in 1316 – almost 300 years before Pieter Pauw acquired some bones and began the Leiden collections, and approximately 350 years before anatomists developed techniques to create long-lasting fluid preparations.

Public dissections attracted people with diverse backgrounds: not just physicians, surgeons and medical students, but also laymen, including many dignitaries. The non-medical attendees had no trouble understanding what was going on: the public dissection

[25] Bennett 1995, 92–93
[26] Tibbe and Weiss 2010
[27] Bergvelt 2005, 345
[28] Bergvelt 2005, 346
[29] Janse 2010, 12
[30] Rupp 1990, 264 (Amsterdam, Delft); Zuidervaart 2009, 78 (Dordrecht, Rotterdam); Zuidervaart 2009, 79–109 (Middelburg – although it seems as if only local visitors came to see the collections, as opposed to the other collections, which attracted foreign tourists as well); Engel et al. 1986, 88, 279 (Franeker, Utrecht; see also the remainder of this volume for visitor reports of other collections).
[31] MacGregor 2007, 161–162

was not so much a medical event as a religious ritual and a moral-philosophical lesson.[32] The audience was meant to marvel at the make-up of the human being, the Creator's masterpiece. They were, in other words, reading a chapter from the book of nature. They also participated in a ritualistic public punishment. Often, the body lying on the table was a convicted criminal: public dissection after death was considered an extra punishment.[33] The strong religious and moral message of public dissections made them understandable and attractive to non-medical audiences.[34] In a similar way, early modern anatomical preparations were not exclusively about bodily structures, but also about the workings of the soul, about morality and about biblical lessons – things that mattered to wider audiences than just medical students and professors. Anatomical collections were part of the public, moral, and religious anatomy, and as such, it is not surprising that they were easily accessible to a wide range of audiences.

Towards the end of the eighteenth century, however, this public, religious anatomy started disappearing.[35] This was part of a larger transformation of the discipline of anatomy taking place in the decades around 1800. Medical historian Andrew Cunningham recently discussed the transformation from what he calls 'old' to 'new' anatomy.[36] He lists six of the major changes: the growing importance of physics and chemistry; the birth of experimental physiology; the formation of comparative anatomy as an independent discipline; the birth of the clinic and the accompanying change of pathology; the disappearance of the 'soul' as an organizational principle; and, most important here, the disappearance of public dissections. The disappearance of the public dissection – or, as Cunningham puts it, the sacred ritual – is obviously related to the disappearance of the lay visitors from the Anatomical Cabinet, but they are not one and the same. The closing-off of the Anatomical Cabinet happened about half a century later than the disappearance of the public dissection. The public anatomical theatre was demolished during the renovations of 1819 to 1822. By then, the anatomical collections still functioned as a tourist attraction, as we saw above and as follows from the visitor reports we have from this period.[37] Lay visitors did not disappear until the second half of the century. This gap between the disappearance of public dissections and the closing-off of anatomical collections is visible not just in

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[32] On public dissection as a religious ritual, see Cunningham 2001. On public dissection as a moral-philosophical lesson see Rupp 2002, which focuses on the Dutch anatomical theatres.
[33] On public dissections as punishment, see Sawday 1996, 54–84.
[34] Dissections could have more functions than being a religious ritual and a moral-philosophical lesson: they also enhanced the status of the city and the university, and their strict regulations disciplined the audience. (On status, see for example Ferrari 1987; on the disciplining of specifically medical students, see Klestinec 2011.) However, these functions do not concern us here, because they were not so much what made the event understandable to a wide audience as well as what made it attractive to a small group of organizers. To conclude, a remark of caution: not all these interpretations of public dissections are applicable Europe-wide. On this, see in particular Klestinec 2011, in which she convincingly argues that the famous Padua theatres need a different interpretation than the ones usually offered by historians of medicine.
[35] Cunningham 2001
[36] Cunningham 2010, 361–389. See also Cunningham 2003.
[37] Engel et al. 1986, 156

Leiden, but in other places as well. Cunningham has shown that public dissections disappeared throughout Europe between 1780 and 1830.[38] In Britain, as in Leiden, it was not until about fifty years later that anatomical collections became increasingly closed off from the public eye.[39] The gap between both disappearances suggests that, although the disappearance of the public dissection and the decreasing accessibility of anatomical collections are no doubt related, we need separate explanations for both developments. While these explanations will undoubtedly share many, or most, elements, the relative weight of these elements will differ.

Cunningham lists four developments probably related to the ending of the sacred ritual: the secularization of the world-view; the replacement of natural philosophy by secular sciences; the rise of expertise in the sciences; and the disappearance of other types of public events, in particular public executions. All but one of them can be dated to around 1800. Only the rise of expertise took place several decades later, roughly in the second half of the nineteenth century. The rise of expertise is the most important element in the disappearance of visitors from university collections – the other three are part of the explanation as well, but carry a smaller weight. What was this rise of expertise? Cunningham summarizes it as 'a new profession of men of science, or scientists, with the university as the prime domain of making new knowledge, especially the research laboratory, where the general public were not allowed'.[40] It involved a new attitude: producers of natural knowledge came to see themselves as 'scientists' and as professionals – distinguishing themselves, in the process, from 'amateurs' and laymen. It also involved a new space: the research laboratory. And with the research laboratory came the teaching laboratory; practical training became increasingly important. The new spaces and the new attitude reached Leiden in the middle of the nineteenth century – and they required a move and a rearrangement, to which we now turn.

1860: From the library to the laboratory

The ceiling of the Cabinet's collection room was also the floor of the university library – a fact that hadn't received much attention until the early 1850s, when this construction started to cause trouble. The ceiling sagged under the weight of the library's books. Two iron pillars prevented a collapse, but the situation was less than ideal.[41] Furthermore, as if an imminent collapse wasn't enough, curator and professor Hidde Halbertsma faced more architectural problems. The Cabinet was also unfit for teaching (experimental) physiology. Halbertsma was responsible for the physiology course, holding the chair in anatomy and physiology, which would not be divided into two chairs until after Halbertsma's death in 1865. In his

[38] Cunningham 2001
[39] Alberti 2011, 169–174
[40] Cunningham 2010, 389
[41] Annual reports of the Anatomical Cabinet 1850–51 and 1852–53, AC2 270

1851–52 annual report, Halbertsma elaborated on one of the problems he encountered in teaching physiology:

> At the moment, both lecture rooms available to me are amphitheatrical [the students were seated in a half-circle] and therefore they can be considered less suitable for physiology lectures. With the present layout, listeners at the front regularly turn their backs on the Professor, which, in my opinion, cannot have a particularly positive effect on their attention, especially because more difficult subjects have to be clarified with the help of hand-made drawings on the blackboard.[42]

Apparently, the problem of students looking the other way does not arise in anatomy lectures; unfortunately, Halbertsma does not explain why. It is possible that it relates to the nature of physiological experiments. Physiology lectures required both demonstrations and drawings on the blackboard to understand the experiments. Unlike anatomical demonstrations, physiological experiments cannot easily be interrupted and continued, meaning that students had to look at the blackboard, the demonstration table and Halbertsma at the same time. It might very well be that the amphitheatrical layout prohibited this, for example if the demonstration table stood inside the half-circle that seated the students and the blackboard was positioned more to the side, (almost) outside the half-circle. We do not know this for sure, but what we do know is that Halbertsma claimed he lacked a decent classroom for his physiology lectures. Furthermore, the Anatomical Cabinet did not contain a teaching laboratory, which was also essential for teaching physiology, as Halbertsma stated repeatedly in his annual reports.[43]

Neither the amphitheatrical arrangement in the lecture rooms, nor the absence of a physiological teaching laboratory bothered Halbertsma's predecessor, Gerard Sandifort. And yet Sandifort, like Halbertsma, taught both anatomy and physiology. However, he did so in a completely different way, as is illustrated by the course descriptions in the *series lectionum*. Sandifort's course was described as 'Physiologiam, anatome comparata illustratam'; Halbertsma's as 'Physiologiam, experimentis et observationibus microscopicis illustratam'.[44] Sandifort taught 'old physiology' (a theoretical, philosophical discipline, based on the study of form, best transmitted through Latin lectures illustrated by anatomical material); Halbertsma taught 'new physiology' (an experimental discipline in which the working of the body was explained with help of physical and chemical processes instead of morphology, best transmitted through a combination of lectures and practical training in microscopic observations and (animal) experiments).[45] Hence, Sandifort required nothing more than an amphitheatrical lecture room, whereas Halbertsma required a lecture room

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[42] Annual report of the Anatomical Cabinet 1851–52, AC2 270

[43] See for example the Cabinet's annual reports of 1853–54 and 1855–56, AC2 270.

[44] Beukers 1984, 93

[45] For the differences between 'old' and 'new' physiology, see Cunningham 2002 and Nyhart 1995, 67–80. For the differences between Halbertsma's and Sandifort's teaching methods, in particular their (non-)use of the microscope, see Beukers 1983.

with a blackboard to draw the chemical and physical processes in the body, a room where students could train with microscopes, and a teaching laboratory where students could perform experiments themselves.

Halbertsma was not the only Leiden professor dissatisfied with his teaching facilities. Petrus Rijke (physics) and Anthony van der Boon Mesch (chemistry) also complained to the governors.[46] As in medicine, teaching laboratories were becoming more and more important in physics and chemistry. (In fact, the teaching laboratories in the natural sciences had been an example for the educational reformers in medicine.)[47] Both departments had spaces for practical training, but these were ill-equipped and too small. Both Rijke and Van der Boon Mesch repeatedly asked for new laboratories from 1846 onwards. Van der Boon Mesch was backed up by his students (in 1851 and 1852) and by a group of Leiden citizens, including several industrialists (in 1851).

At first, the governors refused the professors' requests, but after several years, they gave in.[48] To solve all problems at once, they planned a new building to house physics, chemistry and anatomy. Anatomy would be separated from the library and merged with the natural sciences. This shift dovetailed with the changes that the discipline of anatomy had undergone: the book-of-nature metaphor had lost ground, and physics and chemistry had become ever more important in its practice. The governors had chosen the Ruïne (the Ruins), as location for the new building. In 1807 an exploding powder ship had swept away all buildings in this area. The university had made its first plans to build on this spot soon after, but none of them had been carried out (although the first stone for one of them had been placed).[49] In 1854 the university governors sent their new proposal to the responsible minister. The minister agreed on the need for a new building, but rejected the governors' plan because of the estimated costs: 200,000 guilders. He asked government architect Henri Camp to create a new, cheaper design. In 1857 Utrecht contractor Van Berkum drove the first pile into the ground, and the building was completed some two years and several financial drawbacks later.[50] In 1859, the physics and chemistry departments moved in, followed by anatomy in 1860.

[46] Otterspeer 1992, 119–123
[47] Wachelder 1992, 97–103
[48] Otterspeer 1992, 122
[49] Huizinga 1925, 24–26
[50] *Het physisch, chemisch, anatomisch en physiologisch laboratorium te Leiden* 1859, 64

Figure 11. The new teaching complex for physics, chemistry and anatomy.

Halbertsma was pleased with the Anatomical Cabinet's new home. In his first annual report after the move he wrote:

> Although not yet everything in the present complex meets the demands that we believe to be justified, for now, we are glad about the major improvement as a result of the move. These improvements concern in particular the lecture rooms, the dissection hall, the workrooms, the arrangement of the cupboards, the lighting, not to mention many other things, which are out of place in a report like this one and which I discussed in more detail when I had the honour of inaugurating the academic year on the new premises on October 1st, 1860.[51]

As Halbertsma noted, the new building was not perfect – for example, it would take until 1866 before a proper physiological laboratory was added to the site – but all in all, it was much better than the old one.

Yet, not everybody considered the new housing as successful as Halbertsma did. The 1860 student almanac posed the following rhetorical question in its description of the building:

> This building as it is seen from the outside, with its humble façade, with its ridiculous, ambiguously spherical back part, with its little garden divided in four beds, with its wooden fences – do we not have to call it, from an architectonic point of view, a *monstrum horrible visu*?[52]

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[51] Annual report of the Anatomical Cabinet 1860–61, AC2 271. Unfortunately, I have not been able to locate any sources that tell us more about the contents of the opening lecture Halbertsma refers to.
[52] LSC [1859], 164

The students not only criticized the architecture; they also judged the anatomy section too small.[53] Indeed, a few years later, an additional gallery had to be added to one of the collection rooms to accommodate the newly acquired Suringar collection.[54] And not long after that, in the 1870s, lack of space once again became a problem: the asnnual report of 1883–84 states that students 'had to seat themselves on the stairs and even on the edge of the sink'.[55] Several extensions were added in the 1880s to accommodate the growing anatomy department – meanwhile, physics professor Kamerlingh Onnes slowly took over the main building.[56]

Another group of users that probably had mixed feelings about the Cabinet's new location were the lay visitors. Unlike the students, they did not explicitly voice their concerns, which is not surprising considering that they were a far more heterogeneous and far less (or rather, not at all) organized group. Instead of criticizing the new space in writing, the visitors voted with their feet: after the move, visitor numbers seem to have dropped sharply. Unfortunately, this decrease is impossible to prove with numbers. The only quantitative records we have are after 1860 – and their accuracy is questionable. Nonetheless, several reasons make it safe to assume that the Anatomical Cabinet was visited much less after it moved from the library to the laboratory.

Let us take a closer look at the numbers we do have. These are the name counts from the only known visitor book of the Anatomical Cabinet, which starts in September 1860, directly after the move. The problem with visitor books is that it is hard to estimate what percentage of visitors actually signed them. It was by no means always the case that every visitor signed his (or, occasionally, her) name. This is demonstrated for example by the register of visitors kept between 1805 and 1932 at the Royal College of Surgeons in London (RCS). It lists less than a hundred names for the entire nineteenth century, whereas other sources reveal that the period between 1815 and 1830 alone saw over 25,000 visitors – and the annual number of visitors would only rise as the century progressed.[57] In the case of the RCS, the lack of representation in the register is immediately clear from its name: 'Register of illustrious and distinguished visitors'.[58] Only the highest visitors were allowed to sign it: page after page it lists princes, dukes, bishops and ambassadors. The register served to enhance the collection's status, not to meticulously record its visitors. This type of visitor book was not uncommon at the time, but other, more inclusive ones were used as well. However, these were not always more representative, as follows from the visitor books at the

[53] LSC [1860], 226–227
[54] Annual report of the Anatomical Cabinet 1867–68, AC2 272
[55] Annual report of the Anatomical Cabinet 1883–84, AC3 1553
[56] Van Delft 2005, 178–189
[57] Visitors numbers for the RCS museum can be found in the triennial reports of the boards of curators (RCSE RCS-MUS/8/3/1), the minutes of the museum committee (summarized in Keith 1908), the minutes of the Hunterian Trustees (extracts published in Negus 1966), and 'normal' visitor books (RCSE RCS-MUS/6/1).
[58] 'Register of illustrious and distinguished visitors', 1805–1932, RCSE RCS-MUS/6/2/1

Rijksmuseum in Amsterdam. In 1879, 36,218 people visited the Rijksmuseum in Amsterdam, but only 2923 of them are listed in the visitor book.[59] The problem here was not that people were not allowed to sign, but that they weren't obliged to – and, as you may know from personal experience, many people simply walk right by.

The Cabinet's visitor book was probably not very exclusive, as it was signed by a range of different visitors, both Dutch and foreign, doctors and non-doctors, the latter including Leiden professors from other faculties and several members of Halbertsma's family. More often than not, people signed without a title, even if they did possess one: another indication the book was not initially intended as a status symbol. It seems as though all Cabinet visitors were allowed to sign their name. Nonetheless, the number of visitors listed is limited. In the early 1860s, twenty to forty people visited each year (with a peak of eighty-four visitors in 1863). From 1865 numbers dropped to an average of four visitors a year. After 1877, no more names were added, although the book still held 203 empty pages. These are negligible amounts compared to those in the visitor books of other collections at the time – recall for example the 30,000 plus visitors to the Rijksmuseum. There is no reason to assume that visitors were less inclined to sign a visitor book in the Cabinet than they were in other museums and collections. Hence, we can assume that visitor numbers in the Cabinet were low compared to other collections at the time.

Furthermore, if a visitor book had been kept *before* 1860, it would also have contained more names – even if only a small number of visitors had signed their names. Although we have no visitor numbers, we can roughly estimate the order of magnitude with the help of numbers we do know: visitors to one of the other Leiden collections, the Museum of Antiquities. This museum opened in 1838 and in its first year it received 3000 visitors.[60] Since the Anatomical Cabinet was one of the main attractions in Leiden, we can safely assume that its visitor numbers were as least as high as those of the Museum of Antiquities, which means it is not unlikely that the Cabinet received thousands of visitors each year. In other words: around a dozen a day. Even if only one percent of these visitors signed a visitor book, it would contain ten to hundred times as many names as the visitor book starting in 1860. This means that the Cabinet's visitor numbers after the move were low not only compared to contemporary collections, but also compared to the old Cabinet. Laymen no longer visited the collections.

The disappearance of lay visitors from the Leiden Anatomical Cabinet contrasts with the nineteenth-century rise of the 'exhibitionary complex', in which more and more collections became publicly accessible.[61] Part of the new exhibitionary complex were popular anatomical museums, by which I mean not just anatomical collections open to a wide

[59] Nys 2012, 74
[60] Halbertsma 2003, 145–147
[61] Bennett 1995

audience (like the early modern Leiden collections), but a specific, nineteenth-century kind of anatomical museum. Popular anatomical museums emerged around 1830 (both in Europe and in the United States); they were a commercial enterprise; they were aimed at a broad, non-medical audience; and they displayed both wax models and preparations of the human body.[62] Their owners claimed a noble cause – to educate people about their bodies – but from the 1850s onwards, they cooperated with quack doctors to try and sell to their visitors as many cures, effective or not, as possible. This posed a threat to the medical profession, which started campaigning against the popular museums. In England, medics succeeded in shutting down most popular museums and exhibitions with the help of the Obscene Publications Act (1859). It was not hard to build an obscenity case against a popular anatomical museum – sex and crime were well-represented – but the most pressing concerns of many medical professionals probably did not relate to morality as much as it did to a potential loss of income and a wish to monopolize medical knowledge.[63]

Leiden never had a permanent popular anatomical museum, but the town was visited by traveling exhibitions. Local newspapers announced them:

> On the Bloemmarkt ['Flower market', a street in Leiden] in this town, a tent is being built for the Anatomical Museum of Dr P. Spitzner from Paris. The museum contains 6000 wax objects, representing complete bodies, human body parts, pathologies, etc. Judging from its extensiveness, the collection will exceed in importance many others of this kind, well-known to us from fairs. The low entrance fee will certainly tempt many to come and see the collection. The museum will be open for a few days only, starting this Tuesday.[64]

This was written in 1885. The phrase 'well-known to us from fairs' reveals that Leiden regularly hosted popular anatomical exhibitions at this time. The size of the Spitzner collection was considered remarkable, but the type of collection had been seen before. The success of the popular exhibitions (not only in Leiden, where they kept returning, but also throughout Europe) demonstrates that lay visitors did not turn away from the Leiden Anatomical Cabinet because they had lost interest in (representations of) the human body. They still wanted to see anatomical objects, but they preferred popular anatomical collections above the Cabinet (and other institutional collections).

Visitors were not actively refused in the new Cabinet; lay people were still allowed to visit the collections, as the visitor book shows. However, being open to a general public does not in itself turn a place into a destination: it is a necessary, but not a sufficient condition. A visitable collection requires more: the building needs to be approachable; the objects inside need to be interpretable. Popular anatomical museums and exhibitions met these requirements – they had to in order to make a profit. Until around 1850, the Anatomical Cabinet had met them as well, but in the second half of the nineteenth century, the Cabinet

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[62] On popular anatomical museums in the US, see Sappol 2004. On popular anatomical museums in the UK, see Burmeister 2000; Bates 2008.
[63] Burmeister 2000; Bates 2008
[64] *Leidsch Dagblad* 1885, 2

lost both its approachability and its interpretability. The remainder of this chapter explains how that happened.

A less approachable building

Visitors wanting to enter the new Anatomical Cabinet had to overcome several hurdles. First of all, they had to walk a bit further. Before the move, the collections had been located in the centre of Leiden, close to other major sights. The Academy Building and the botanical garden could be found across the canal. The laboratory complex was situated somewhat further away from the town's centre, with few other attractions nearby, let alone, as had been the case with the library, in the same building. Of course, a longer walk was not insurmountable, but it did pose a barrier for visiting.

Moreover, visitors encountered several challenges upon arrival at the Ruïne. In particular, they had to reach the entrance – which was not as trivial as it seems. Even the Cabinet's personnel struggled with it from time to time, as Halbertsma explained to the governors in 1861:

> Amongst the things urgently needing improvement in the new building at the Ruïne (anatomy department) are in the first place the entrances. These are faulty, both at the front and at the back, and hence, from time to time, the personnel belonging to my department has to cross the grounds of the wings or climb over the fence in order to get inside.[65]

The building stood on an enclosed area. The fence had four gates, but apparently the one leading to the anatomy department did not always open easily, forcing Halbertsma's employees – and potential visitors – to put in some extra effort. Although the fence wasn't necessarily high, it made visiting the collections that much more difficult. And before visitors even discovered that the anatomy gate stuck, they had to locate it. Finding the front gate was easy enough, but this gate was exclusively intended for use by the physics and chemistry laboratories (although Halbertsma's staff sometimes used it as well, if all else failed). The Anatomical Cabinet was located at the rear of the building or, as the student almanac put it, the 'ridiculous, ambiguously spherical back part',[66] which meant that visitors had to find their way around the building, into the Zonneveldsteeg (Zonneveld alley). Again, not insurmountable, but the backdoor was less welcoming than the front entrance, especially when it rained. Halbertsma again:

> At the back of the anatomical cabinet, at the gate leading to the Zonneveldsteeg [Zonneveld alley], is a small street, which is separated from the main street by a wide strip of soil, covered with coarse sand. After heavy rain, large puddles of water remain in front of this small street, which makes it impossible to properly enter the garden behind the anatomical cabinet through the gate.[67]

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[65] Halbertsma to governors, 18 January 1861, AC2 131, 33
[66] LSC [1859], 164
[67] Halbertsma to governors, 15 March 1864, AC2 137, 71

All in all, finding your way in was much harder than it had been in the Faliedebagijnkerk. For more than two centuries, visitors had simply entered the Anatomical Cabinet through a clearly recognizable front entrance, facing Leiden's main canal. Now, they had to find their way to the back alley, wade through the puddles, pray that the gate would open (or climb over the fence), walk up to the building, and knock on the door. If the custos didn't answer they had to turn around, conquer fence and puddles again, find the custos's house in the Zonneveldsteeg, and hope that the gate would still open when they returned. But the trouble did not end there: even if visitors gained entrance to the building, it was hard to find the collections. These were located in four rooms on the top floor, instead of in the main room on the ground floor, as had been the case in the old Cabinet.[68]

In reaction to Halbertsma's complaints, the situation improved a little: the governors ordered the inspector of the university buildings to fix the gates and they asked the city of Leiden to pave the gap between the alley and the gate.[69] But the new Cabinet never became as approachable as the old one had been. Not just because the somewhat distant location and the backdoor entrance continued to make it unwelcoming, but also because of a feature not yet mentioned: the closed atmosphere of the building itself, which stemmed from its main function as a teaching laboratory.

A laboratory is a 'closed space'. This is reflected in its architecture (it was no coincidence the building was fenced in), but also in its atmosphere. A laboratory – whether for teaching or for research – is a strictly regulated environment with a clear target audience: students and professors. Even if other audiences are allowed in (which often they are not), lay people will in general be hesitant to enter a laboratory. The strict and numerous regulations – do not touch this, do not use that, wear white coats – create an intimidating atmosphere that scares off most potential visitors. The collection rooms themselves did not necessarily look 'laboratory-like', but they were nevertheless located in a building that was known first and foremost as a *laboratory* building and as such had a closed atmosphere. This closed atmosphere became more dominant towards the end of the century, as the building increasingly transitioned into a research laboratory. Again, this contrasted with the old Cabinet. Here, the collections had been housed in and around an anatomy theatre (until 1819), together with a library, in a (former) church. All three spaces had open atmospheres: the theatre as the location of public dissections; the library as a tourist attraction; the church as God's temple. These open atmospheres reinforced each other as well as the open character of the anatomical collections.

Together, the relatively remote location, the sticking gate, the puddles and the closed atmosphere made the new building much less approachable than the old one. But if a visitor did manage to reach the entrance, he or she would be let in; lay people were not explicitly refused. However, few people went to the trouble because once they got in, they

[68] Annual report of the Anatomical Cabinet 1871–72, AC2 273
[69] Halbertsma to governors, 18 January 1861, AC2 131, 33 (governors' decision added to the letter; on the gate); governors to Halbertsma, 30 April 1864, ASF 461, 112 (on the paving)

were confronted with collections that were not very attractive to them because they were rather hard to interpret without prior medical knowledge. This was a consequence of the rearrangement that accompanied the move, a rearrangement we will now take a closer look at.

A less interpretable arrangement

Although Halbertsma did not turn down visitors, he did keep some preparations away from them. He was ashamed of the condition of the preparations:

> I may say the same [being in need of new fluid] of many preparations which are already listed in the Catalogue of the Museum Anatomicum, and hence were already present when I arrived here; they have been taken off the shelves for now, so as not to offend [people giving] nasty and critical looks, and now they are being thirsty in a hidden corner.[70]

After his appointment in 1848, Halbertsma found many of the preparations to be in bad shape. Many of the wet preparations had dried out; most of the skeletons suffered from damp.[71] And not only the state of the individual preparations bothered Halbertsma; he was also dissatisfied with the composition, classification and arrangement of the collections as a whole. Determined to solve these problems, Halbertsma asked the governors for extra money and set to work together with his newly appointed prosector Johannes Boogaard. In the mid-1850s, they had topped up the fluids, relabelled the jars, cleaned the skeletons and varnished the bones.[72] They decided to wait a few more years before they started rearranging the collection: the first plans for the move had materialized, and Halbertsma felt it would be a waste of time to move the objects around only to do it all again in a few years time.

In the old system, preparations were by and large arranged by their makers. Halbertsma proposed instead to classify them systematically, by separating general anatomy, pathology and comparative anatomy, and then organizing the objects according to organ system within these categories. He intended to follow the system used at the Royal College of Surgeons in London, the catalogues of which he acquired in the academic year 1854–55 through the Dutch ambassador in Britain.[73] The new classification system was put to use after the move.[74] Preparations deemed irrelevant in the new system were discarded; the remaining ones were put in their proper place on the shelves. Describing the preparations anew was also part of the job, but with thousands of preparations and little time at hand, it

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[70] Annual report of the Anatomical Cabinet 1851–52, AC2 270
[71] Annual report of the Anatomical Cabinet 1851–52, AC2 270
[72] Annual report of the Anatomical Cabinet 1853–54, AC2 270
[73] Annual report of the Anatomical Cabinet 1854–55, AC2 270. The catalogues were added to the university library, see Inventory University Library, AC2 338.
[74] Halbertsma started (but never finished) making a catalogue in which he implemented this classification system. This catalogue has been lost for several years; fortunately, it has reappeared in the Leiden University Library – unfortunately, this happened in the last stages of preparing this manuscript, and I have not yet been able to investigate it.

would take over thirty years and another two curators before this would be more or less completed.

Halbertsma made all these changes with a clear aim in mind: he wanted collections fit for research and teaching. After a visit to the Anatomical Cabinet, the university Senate summarized Halbertsma's intentions as follows:

> The director [of the Anatomical Cabinet, i.e. Halbertsma] is always inspecting and repairing the existing preparations, and separating the ones without use. … Rightly, with regard to extending the collection it is not so much his intention to give the cabinet an appearance which amazes the general public or less experienced visitors because of its curiosities, but rather [it is his intention] to possess a collection of objects useful and indispensable for teaching and research.[75]

Halbertsma considered it impossible to reach out to the audiences of students, researchers and lay visitors simultaneously, and he chose the former two over the latter. This brings us to a major difference between Halbertsma and his predecessors. In the early modern period, the Leiden anatomical collections catered to students, researchers *and* lay visitors simultaneously. Preparations were presented in such a way that lay visitors could easily relate to them, but that did not mean the collections were not suitable for research and teaching. The religious and moral issues that appealed to non-medical audiences were also an integral part of the discipline of anatomy. Of course, anatomists also investigated more specialist questions on bodily structures and functions. They used anatomical collections for these investigations as well, and although this use did not add to the accessibility of the collections to a wider audience, it did not threaten it either – the different uses simply co-existed.

As mentioned above, religion and morality disappeared from anatomy after 1800. Yet the Cabinet's first nineteenth-century curator, Gerard Sandifort, continued the early modern exhibition practices. It was during his rule that the anonymous English visitor read the tablet on the unhappy marriage and traced the wrinkles on the monstrous child afterwards. Other travellers who visited the Cabinet in Sandifort's days mentioned similar interpretable preparations in their reports. For example, around 1805 Benjamin Silliman was shown a monstrous birth preserved in a large glass jar whose mother had visited it annually for the last nineteen years.[76] Jean Duchesne, who visited in the 1830s, wrote about the head of a giant called Cajanus.[77] Not only Cajanus' head could be seen, but also some of his clothes. We know this because another traveller, Karel van Wildenstein, felt the need to tell us that Cajanus' slipper was absent during his visit, as was 'the shoe of the infamous farmer of Lekkerkerk'.[78] We would not recognize slippers and shoes as an anatomical object, nor would nineteenth-century anatomists. They were not meant to demonstrate a

[75] Senate to governors, 1 February 1854, AC2 119, 138
[76] Silliman 1812, 164
[77] Duchesne 1834, 268
[78] Van Meerten 1829, 304

fact about the human body, but they made the collections more interpretable to lay visitors. As did the fact that Cajanus had a name, and was not just one of many giants, but a unique personality – with his own slippers, which also helped visitors imagine how huge Cajanus' feet must have been.

Sandifort did not change the collections' composition or the preparations' descriptions because he was satisfied with the collections as they were. In his annual reports, he describes the collections as rich and the condition of the preparations as good, and he never complains about the facilities. An example from the 1837 report:

> the anatomical-physiological-pathological cabinet, which has already acquired such an extensiveness that it is able to rival foreign cabinets of this kind both in usefulness for the sciences [*wetenschappen*; similar to the German *Wissenschaften*] and in the way in which the preparations are displayed[79]

As this phrase shows, Sandifort was also interested in collections useful for research ('usefulness for the sciences'). And the chapter on students has shown he regularly used the collections in teaching. Yet to him, use in research and teaching did not exclude a presentation strategy appealing to lay visitors as well. He would be the last curator for whom this was the case: his successors, starting with Halbertsma, thought it impossible to combine the interests of students, researchers and lay visitors. They considered collections attractive to lay visitors 'unscientific', as becomes apparent from the inaugural lecture of Teunis Zaaijer, the Cabinet's last nineteenth-century curator. He became a curator in 1877, but was appointed as a professor in anatomy twelve years before that. In his inaugural lecture, he fiercely criticized Holland's most famous early modern anatomist: Frederik Ruysch. According to Zaaijer:

> [Ruysch has] shown, through the layout of his collections, that he missed the true method, the right scientific genius; he made anatomy, as it were, a fashionable product for the great of the earth.[80]

Like Halbertsma, Zaaijer suggests that one could *either* be 'scientific' (and thus useful for research and teaching) *or* please the lay public (in this case 'the great of the earth') – but not both. In Zaaijer's eyes, Ruysch had chosen the latter, and this annoyed him:

> Anatomy owes Ruysch some important improvements, but we cannot get away from the conviction that, through using a better method, such a long and productive life, almost all of it in good health, could have given us more fruits for our science [of anatomy].[81]

Other nineteenth-century anatomists criticized Ruysch in similar ways. Joseph Hyrtl, for example, stated that the fame of Ruysch's collection was mainly due to 'curiosities' and

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[79] Annual report of the Anatomical Cabinet 1837, AC2 270
[80] Zaaijer 1866, 19. It is possible that the word 'great' (*grooten)* is a nod to Peter the Great, the most famous visitor of Ruysch's collection.
[81] Zaaijer 1866, 20

had little to do with his scientific merits, 'which indeed weren't very high'.[82] Zaaijer and Hyrtl were right insofar that Ruysch's collection offered entertainment for lay (even noble and royal) audiences as well, but they forgot that Ruysch also actively used his preparations in teaching and research. To Ruysch and other early modern anatomists, this was a natural combination. To Zaaijer, Halbertsma and their contemporaries, it was an impossible one.

The Leiden curators felt obliged to choose between students and researchers on the one hand, and the lay public on the other. Being university professors, they chose the former. From 1879 onwards they were even required to do so by law:

> He [a person managing a university collection] allows visitors in the collection as long as this does not cause any trouble for its [the collection's] intended use. As soon as teaching concerns or the institution's interests prohibit it, visitors are refused.[83]

This is one of the articles in the 1879 decree on the management and use of collections in higher education. It applied not only to anatomical collections, but to all university collections. The strict separation of 'scientific' and lay audiences was part of the nineteenth-century rise of expertise.[84] This rise was not limited to anatomy, or medicine, but present in all the sciences. Scientists acquired authority in society, but not without effort. To create and maintain their status as experts, they had to demarcate themselves from 'amateurs' – which is how that word acquired the negative connotation it carries today. An effective way of doing this was to label themselves as 'scientific' and everyone else as 'amateurs', and then present the two categories as mutually exclusive. Books, exhibitions and other works on natural knowledge aimed at 'amateurs' were called 'popular science', where 'popular' had a negative connotation, 'non-scientific'.[85] As a result it was no longer possible for, say, a collection to be 'popular' and 'scientific' at the same time.

Now that the curators, in their academic ambition to be scientific, were focusing exclusively on students and researchers, the anatomical collections became hard to understand for lay visitors. The curators no longer made an effort to help them relate to the preparations and without it visitors could no longer interpret these preparations. As we have seen, visitors made sense of a preparation by adding their own stories and knowledge to them, but they were only able to do so if they had a point of departure to which they could tie them. Before 1860, these points of departure had been abundant; after 1860, they disappeared. The new Cabinet's anatomical preparations, being part of a university collection, were specialized by nature. Since anatomy had lost its religious and moral aspects, the preparations were now solely intended to teach and research the structure of the body. This made them hard to understand for people without medical knowledge. They needed tales on tablets or stories told by guides in order to see more than just shelves full of medical objects – to see the son of a senile usurer; a stillborn baby still visited by its mother;

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[82] Hyrtl 1865, 528
[83] Reg. 1879, art. 8
[84] Alberti 2005b, 152; Alberti 2007, 380; McLeary 2001, 260–270
[85] Topham 2009

the head of famous giant; and the skeletons of criminals. But the curators made no effort; and the religious and moral issues had left the discipline of anatomy. Hence, late nineteenth-century visitors were confronted not with interpretable preparations, but with collections they could hardly relate to.

We can quite accurately reconstruct what the few remaining visitors would have encountered when they entered the rooms that housed the anatomical collections in the new building. This can be done with help of a hand-written inventory that lists the preparations by cupboard. Zaaijer compiled the inventory; he sent it to the governors in January 1893.[86] Of course, between 1860 and 1892 the collections were regularly extended, which means not all preparations mentioned in the inventory will have been visible throughout the period. Furthermore, at two points in time large parts of the collections were removed: in 1861, part of the Brugmans collection was moved to the natural history museum, and in 1885 many of the pathological preparations went to the new pathology laboratory. But we have no reason to assume that the way the (remaining) preparations were shelved changed much. Except for the addition of a galley in 1867–68, no extensions or changes in the collection rooms are mentioned in the annual reports – whereas changes in other anatomy rooms are discussed in some detail.

According to the 1892 inventory, four of the Cabinet's rooms were dedicated solely to the collections: rooms 9 to 12. (Some of the other rooms, like the preparation room and the curator's office contained preparations as well; they were not included in the inventory.)[87] Room 9 was the most varied and contained wet and dry preparations of comparative anatomy, developmental history and human anatomy. The room contained ten large cabinets and twelve smaller ones, most of them with over a hundred preparations. Cabinet IV, for example, contained 252 fluid preparations on human anatomy: 80 on skeletal development; 55 of skin, nails and hair; 41 of the senses; and 76 of the digestive system.[88] None of these were likely to have been of much interest to lay visitors. Moreover, even if they would have been able to understand the preparations of the digestive system, one or two would have been more than enough. Visitability was certainly not aided by having 76 preparations of the same kindw. The most interpretable preparation in this room – and in the Cabinet as a whole – was probably the 'mice orchestra'. The orchestra was an impressive piece of handiwork by the Dutch doctor E. J. van der Mijle. Van der Mijle had collected enough mice skeletons to put together a miniature orchestra, which he then donated to the Anatomical Cabinet. In the accompanying letter, he stated his intentions:

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[86] Teunis Zaaijer, 'Inventaris der verzameling in het Anatomisch Kabinet van de Rijks Universiteit te Leiden', 1892, Leiden, LUMC, archives Anatomisch Museum (no inventory number); a copy of this catalogue (without some of the remarks written in the margin) can be found in the archives of the university governors: AC3 1772.

[87] A separate catalogue of the wet preparations in the preparation room exists, but it is not dated. 'Katalogus spiritus-prepar. kast prepareerkamer', Leiden, LUMC, archives Anatomisch Museum (no inventory number)

[88] Teunis Zaaijer, 'Inventaris der verzameling in het Anatomisch Kabinet van de Rijks Universiteit te Leiden', 1892, Leiden, LUMC, archives Anatomisch Museum (no inventory number), p. 3

> I hope that the gloominess connected with anatomical cabinets will disappear because of the musician's tones being in tune and because of their truly musical touch in handling their instruments; and [I hope] that the visitor, nervously melancholic because of various unpleasant sensations, will return to his previous cheerful mood.[89]

If used in this way, the orchestra would make the collections more visitable. However, the piece was placed on top a large cabinet, not a place where it would easily catch a visitor's eye – apparently, the preparation was not judged as core scientific business and the Leiden curators could not really be bothered with uneasy-feeling visitors.

Room 10 and 12 were largely filled with anthropological skeletons and skulls. Until 1885, room 10 had housed the pathological preparations as well. When these had moved to the pathological laboratory, part of the anthropological preparations from room 12 (which suffered from a lack of space) was rehoused. Room 10 also contained some 'ordinary' skeletons. According to the inventory:

> The skeletons are marked A to V; on the skulls have been written the sex and, wherever possible, the age.[90]

Twenty-two skeletons, but none of them held banners warning that life was short. Nor were they individualized by tales of the crimes they had committed. Instead, they were nameless, reduced to their sex and, where possible, their age. To the non-medical gaze, all of them would have looked the same.

The remaining room, room 11, contained twenty-four cabinets (twelve large, twelve small), all of them filled with teratological preparations. If a mother wanted to visit her misborn child, she would come to this room. But she might not be able to get as close to the child as she could have in the old Cabinet. We do not know to what extent lay visitors in the new Cabinet were allowed to come close to, or even touch, the preparations – but the policy was probably more restrictive than it had been in the old Cabinet. At least, that is what we see in other anatomical collections at the time: handling by lay visitors was being increasingly discouraged, or even explicitly prohibited.[91]

We have seen how lay visitors disappeared from the Leiden Anatomical Cabinet. They left not because they were explicitly sent away, but because the preparations ended up in a laboratory complex that was hard to approach, and in a 'scientific' arrangement that made them hard to interpret without prior medical knowledge. These were all consequences of changing practices and attitudes in medicine.

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[89] Van der Mijle to Leiden professors, 1870, ASF 461

[90] Teunis Zaaijer, 'Inventaris der verzameling in het Anatomisch Kabinet van de Rijks Universiteit te Leiden', 1892, Leiden, LUMC, archives Anatomisch Museum (no inventory number), p. 34

[91] Alberti 2011, 181

Epilogue: the afterlife of the monstrous child

What happened to the monstrous infant of the beautiful young woman and the ugly old man, the child with which we started this chapter? As said, the wrinkled child was most likely among the preparations that were moved to the new pathology laboratory in 1885. Two facts support this claim. First of all, the preparation as it is today carries a label from the pathology laboratory, which indicates the laboratory possessed it at some point. Second, the preparation is not listed in the extensive catalogue of teratological preparations in the Anatomical Cabinet that was compiled in 1910, meaning it was no longer at the Cabinet at that time.[92] Unfortunately, we cannot look the preparation up in the pathology lab's collection catalogue as the label has become illegible over time. The catalogue is concise, with the preparations being described in one or two words.[93] Several of these words would have fitted the monstrous child: 'monstrum' or 'foetus', for example. But most likely it was described as an 'anencephalus'. In an anencephalus, (part of) the skull is missing, and the brain is absent or deteriorated; this is the major malformation the preparation shows. Whether the preparation was moved to the pathological laboratory, or remained in the new Cabinet, it was this malformation that would have been used to characterize it – not the story of its parents.

These days, the monstrous child is housed in the Anatomical Museum of the Leiden University Medical Center. It is still hard to interpret: it carries an illegible label and the museum database describes it as 'anencephalus and rachischisis'.[94] It is also hard to approach: it rests in a drawer in one of the museum's storage rooms, in the basement of a medical teaching building. It has never been as accessible as it was before 1860. The same goes for most of the Leiden anatomical preparations – even the ones exhibited in the museum itself. According to its website, the museum is intended for (future) medical students and their teachers; its collections can also be used in medical research. Twice a year, the museum opens its doors to the 'general, interested public'.[95] But even on these two days, the museum is not exactly accessible: the building is hard to approach and its collections are hard to interpret. The museum is housed in the university hospital teaching building, a closed space located at the university's Bio Science Park. From the outside, visitors would never guess that the building hides a museum inside – and even though it is located close to the front entrance, it is hard to find upon entering.[96] Clear signs are lacking; the entrance is located in a dead end; and the glass door has been made non-transparent. Moreover, once inside, the preparations are hard to interpret for lay visitors. Touch screens offer information about individual objects, but the texts speak to a specialist audience,

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[92] T. E. van der Guyten, 'Catalogus van het Anatomisch Kabinet te Leiden' 1 October 1910, Leiden, LUMC, archives Anatomisch Museum (no inventory number)

[93] 'Notulenboek Pathologie', Leiden, LUMC, archives Anatomisch Museum (no inventory number)

[94] In the online catalogue, a 'dr. De Koning' is mistakenly named as donor of the preparation. (<http://catalogue.leidenuniv.nl>, search for 'Pe0050') In the museum database, this mistake has already been corrected.

[95] LUMC, 'Anatomisch Museum'

[96] Sometimes temporary signs are placed on the days it is officially open to the general public.

containing more medical Latin than Dutch. The guides are medical students; their tours are hard to follow without medical knowledge.

The Leiden collections are not the only anatomical collections that are open to lay visitors in theory, but rather hard to get into in practice. The most extreme case is probably the National Medical Museum in Washington, which is not located at the National Mall, like all other national museums, but on an in-use army base in the suburbs. More often, public anatomy museums are housed in (teaching) hospitals far away from the city centre (and therefore also from other tourist attractions). Think about Museum Vrolik in Amsterdam, the Museum Bleulandinum in Utrecht, the Medizinhistorisches Museum der Charité in Berlin, and the Musée Dupuytren in Paris. I do not want to want to suggest in any way that these museums are closed to the public – they are not. In fact, most of them can be qualified as more open than the Leiden Anatomical Museum. Visitors do enter. But these anatomical museums are nowhere near as accessible as the average museum due to their distant location, which is often paired with a presentation directed more at medical students than at lay visitors. Anatomical collections ended up at these locations (and in these arrangements) because they remained relevant in medical research and teaching throughout the nineteenth century, and beyond. Hence, the medical faculties took them wherever they went – far away from other tourist destinations, both in distance and in style.

Had all anatomical collections lost their (medical) use in the nineteenth century, more of them might have ended up in easily accessible spaces. Not as medical objects, illustrating the structure of the body, but as historical artefacts, telling us about cultures past. This happened to a small part of the Leiden collections: the historical preparations now on display in Museum Boerhaave. Yet most preparations resisted such historization. They lost their connection to the past, just as they lost their stories – as we will see, much to the dismay of our next audience: the university governors.