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## **The finger of God : anatomical practice in 17th century Leiden**

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## *INTRODUCTION*

In 1594 Leiden University had been in existence for just 18 years. From rather modest beginnings – in its first year the University counted seven professors and some 90 students – the first academic institution in the Protestant United Provinces had grown into a respectable seat of higher learning, counting internationally renowned scholars such as Justus Lipsius, Josephus Scaliger and Carolus Clusius among its professors.<sup>1</sup> The buildings and facilities of the young university had also expanded considerably in the two decades of its existence. Halfway through the 1590s Leiden offered its students learning facilities such as a botanical garden, a fencing school, a university library and – put into use at the end of 1594 – an anatomical theatre.

This anatomical theatre was a fascinating place: a circular amphitheatre with six tiers around a rotatable dissection table, adorned with human and animal skeletons, and accommodated in the apsis of a secularised church (which incidentally also housed the library and the fencing school). Public dissections in this theatre, anatomies on a human cadaver for the benefit of a wide audience (and not just medical professionals and students), were conducted with great solemnity and decorum, almost like religious ceremonies. They were attended by the burgomasters of Leiden and by the senate of the University, and all lectures and other academic activities were suspended when these anatomical demonstrations were held. As we learn from contemporary and later descriptions, these public anatomies as a rule only took place in the winter months, when low temperatures would keep the decomposition of the cadavers at an acceptable rate. The rest of the year the anatomical theatre – which was after all a permanent structure – was also open to the public; people could then admire the collection of rarities and curiosities displayed in and around the theatre.

Without exaggeration the Leiden theatrum anatomicum can be described as a 17<sup>th</sup>-century tourist attraction of the first order, depicted in several prints and drawings, described in books and celebrated in many travelogues. Although actual reports of anatomical demonstrations witnessed in the theatre are scarce, many late 16<sup>th</sup> and 17<sup>th</sup>-century travellers describe the collection of skeletons, natural curiosities and artefacts on display in and around the theatre. The passage ‘even when one had a thousand eyes, a full day would not suffice to see all the mysterious and curious objects [of the theatre],’ probably coined in 1630 to describe the theatrum anatomicum, became a figure of speech that was repeated in a great number of travelogues well into the 18<sup>th</sup> century.<sup>2</sup>

The Leiden theatrum anatomicum was built when humanism was at its peak as an intellectual movement in the Netherlands, and in many ways the theatre was an embodiment of humanist thought and ideals. An important characteristic of humanism is its belief that knowledge and understanding of Man would lead to understanding of the whole of creation and ultimately of understanding of God.<sup>3</sup> As Man and the understanding of Man were at the centre point of the humanist world view, a theatre where the fabric of the human body could be demonstrated would be an important tool in gaining this knowledge. It was no coincidence that the motto ‘Nosce te ipsum’ (know thyself) was emblazoned on one of the banners borne by the skeletons displayed in the theatre. And, also in keeping with humanist ideals, the anatomical theatre was a place of education and instruction: it was a public theatre. The anatomical and natural collections housed there could be visited and admired by anybody, just as the anatomical demonstrations were accessible to the general public and not just to the members of the university. The Leiden anatomical theatre was a place of edification, where everyone who so wished

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<sup>1</sup> Cf. Otterspeer, *Het bolwerk van de vrijheid*, chaps. 7 & 8

<sup>2</sup> The earliest instance of this phrase being used is in *Gotfr. Hegenitii itinerarium Frisio Hollandicum* [. . .] Leiden (Elzevier) 1630. Information based on an unpublished survey of travellers’ accounts of the theatrum collected by A.J.F. Gogelein, who has graciously placed it at my disposal

<sup>3</sup> Cf. Otterspeer, *op. cit.*, p. 31

could learn about himself, his world and his relationship to his Maker. And although later in the 17<sup>th</sup> century interest in and the relevance of the theatrical demonstrations of human anatomy would be waning, the theatre remained an important location among Leiden's scientific facilities, not least because the encyclopaedic and spectacular character of its collection of objects had increased in the course of the century.

Little wonder then that the memory of this academic institution, so appealing to the imagination as it conjures up associations with the anatomy lessons depicted by the great Dutch painters of the 17<sup>th</sup> century, has lived on long after its demise in 1821. At the end of the 20<sup>th</sup> century the Leiden anatomical theatre was even reconstructed in the Museum Boerhaave, the Dutch museum for the history of science and medicine. And here it forms one of the chief attractions of a visit to this museum.

### Existing literature

Little wonder also that the anatomical theatre has had its share of attention from historians from the 19<sup>th</sup> century onwards. One of the first to consider the anatomical theatre after it was taken down was the Leiden professor of medicine and medical historian G.C.B. Suringar, who published a study of the beginnings of anatomical instruction at Leiden University in 1861.<sup>4</sup> In 1911 another medical historian, J.E. Kroon, wrote a thesis, also on the early years of medical education in Leiden, which touches on the subject of the anatomical theatre. Kroon cites relevant passages from the *Dachbouc* (diary) of the University secretary Jan van Hout, offers a reproduction of the engraving after Jacques de Gheyn representing an anatomical lesson by the first professor connected to the theatre, Petrus Paaw, and the 1609 print by Johannes Woudanus depicting the anatomical theatre.<sup>5</sup> Specific study of the collection of curiosities of the *theatrum anatomicum* based on transcribed inventory lists, as well as an attempt at reconstruction of the layout of the theatre and its adjacent rooms, is provided by the Leiden professor of anatomy J.A.J. Barge in his *Oudste inventaris der oudste academische anatomie* from 1934. In the 1960s and 70s extensive archive research was carried out by H.J. Witkam, offering a real treasure-trove of information about the anatomical theatre and the practical management of anatomical affairs by Petrus Paaw and later anatomists such as Albinus and Sandifort father and son, as well as the development of the anatomical theatre collection.<sup>6</sup> In particular Witkam provides useful transcriptions of notes, diaries and reports from Jan van Hout. Witkam's archive findings however were only published in limited editions in typescript, and were never extensively incorporated into any historical study. More recent work on the Leiden anatomical theatre and on anatomical theatres in general can be found in several articles published by J.C.C. Rupp and in a book by J.A.M. Slenders.<sup>7</sup> Rupp considers the phenomenon of the anatomical theatre in a Dutch and a European context; Slenders provides a

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<sup>4</sup> G.C.B. Suringar, 'De vroegste geschiedenis van het ontleedkundig onderwijs te Leiden', in: *Nederlands Tijdschrift voor Geneeskunde*, Jg. 1861 (reprint in Museum Boerhaave Library)

<sup>5</sup> J.E. Kroon, *Bijdragen tot de geschiedenis van het geneeskundig onderwijs aan de Leidsche Universiteit 1575-1625*, dissert. Leiden 1911

<sup>6</sup> H.J. Witkam, *Iets over Petrus Pauw en zijn theatrum anatomicum en over het bouwen van de anatomieplaats en de bibliotheek*, Leiden 1967 (typescript)

H.J. Witkam, *Dagelijkse gang van zaken aan de Leidse Universiteit*, Leiden 1970-71 (typescript)

H.J. Witkam, *Catalogues Anatomy Hall Leiden University*, Leiden 1980 (typescript)

H.J. Witkam, *Over de anatomieplaats, de Albinussen en de Sandiforts*, Leiden 1968 (typescript)

<sup>7</sup> J.C.C. Rupp, 'Matters of Life and Death, the Social and Cultural Conditions of the Rise of Anatomical Theatres' in *History of Science* 28 (1990) pp. 263-287, 'Theatra anatomica: culturele centra in Nederland in de 17<sup>de</sup> eeuw', in: *De productie, distributie en consumptie van cultuur*, (z.p.) 1991, J.C.C. Rupp, 'Michel Foucault, Body Politics and the Rise and Expansion of Modern Anatomy', in: *Journal of Historical Sociology* V no.1 (1992) pp. 31-60, J.A.M. Slenders, *Het theatrum anatomicum in de Noordelijke Nederlanden*, Nijmegen 1989

concise survey of anatomical theatres in the United Provinces. Finally, an important study on the emblematic significance of the prints included in the anatomical theatre collection was written by Lunsingh Scheurleer in his ‘Un Amphithéâtre d’anatomie moralisé’ of 1975.<sup>8</sup>

### **The themes of this investigation**

My study is obviously not the first book on the subject. However, the literature I have just gone through leaves more than enough *lacunae* to justify this publication. A major point that the earlier work on the Leiden anatomical theatre does not touch upon are the significant changes in context that the anatomical theatre goes through in the course of the 17<sup>th</sup> century. The existing literature treats the *theatrum anatomicum* as an unchanging entity, which assumed its final shape in around 1600 and then remained frozen in time for the rest of its career. But although it was conceived in the late 16<sup>th</sup> century, as a product of humanist learning, the *theatrum anatomicum* plays a part in the shifting Leiden academic landscape for the next two centuries. The 17<sup>th</sup> century was above all an era in which considerable cultural and scientific change took place. The Scientific Revolution in particular – admittedly this is a label that has become less and less precise in recent years – had undeniable impact on the way anatomists and others interested in anatomy viewed their subject. These changes in science and what science in general and anatomy in particular were about must have had their effect on the business conducted in the anatomical theatre, and on the reception of the anatomical theatre by the public. My study will investigate the effects these changes in the scientific and cultural context had on the Leiden anatomical theatre throughout the 17<sup>th</sup> century.

Another aspect that to my mind deserves more attention than it has received thus far is the fact that the Leiden *theatrum anatomicum* was to a large extent a creation that evolved through the input of the subsequent professors of anatomy who used the theatre. The biographical element therefore has become an important thread in the history of the anatomical theatre as provided by this study. The more so because the subsequent ‘performers’ working in the theatre in the 17<sup>th</sup> century – Paaw, Heurnius, Van Horne, Drelincourt, Nuck and Bidloo – have hitherto remained somewhat obscure figures in the historiography of Leiden University, with the possible exception of Nuck.<sup>9</sup> Each of these scholars in their own way however shows enough characteristic and interesting biographical details to merit a somewhat wider account of their life. The function of this attention to biographical detail is also to root the different developments in the theatre in the context of their time. The professors active in the *theatrum anatomicum* were all men shaped by their cultural, intellectual and scientific surroundings, and as such instruments by which this context could act upon the theatre.

Closely connected to the presentation of the Leiden anatomical theatre as an institution shaped and altered by its evolving cultural context is the question of the relationship between the two functions of the theatre: anatomy place and cabinet of curiosities and rarities. In the literature thus far this relationship has never been seen as problematic. The anatomical theatre housed a collection of curiosities that could be admired by the public when no dissections were taking place. A possible conflict between these two functions, ‘museum’ and dissection room, does not seem to exist. A survey of contemporary source material however reveals that the coexistence of these two functions was problematic, and increasingly so in the course of the 17<sup>th</sup> century. All kinds of conflicts due to practical as well as personal incompatibles transpire through the pages of the Leiden University archives. This book will attempt to give these conflicts their place in the history of the anatomical theatre.

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<sup>8</sup> Scheurleer, ‘Un Amphithéâtre d’anatomie moralisé’, in: *Leiden University 400 Years*, Leiden/Amsterdam 1975

<sup>9</sup> A survey of Nuck’s life and work in Luyendijk-Elshout, ‘Anthony Nuck (1650-1692) the ‘Mercator’ of the Body Fluids, a Review of his Anatomical and Experimental Studies’, in: *Circa Tiliam*, 1974

A final theme to be investigated in this study will be the relationship of the *theatrum anatomicum* with other localities in Leiden where anatomical dissections were performed, as it is clear that the theatre did not have the monopoly on anatomical activity in the 17<sup>th</sup> century. Most notable among these other anatomical localities is the dissection room of the Collegium Medico Practicum, a facility for clinical teaching organised in 1637 by Otho Heurnius at the Caecilia Hospital, Leiden's municipal hospital for the poor.<sup>10</sup> At the Caecilia Hospital a number of beds were reserved for 'interesting' patients, whose diagnosis and treatment served as practical instruction material for the medical students. If any of these patients succumbed to their afflictions, a postmortem would be performed in a special room within the hospital. During the professorship of Franciscus de le Boe, or Sylvius, in particular these postmortems were performed quite frequently, and the question arises whether these dissections in any way complemented or maybe even rivalled the activities in the public anatomical theatre.

Apart from the *theatrum anatomicum* and the dissection room of the Collegium Medico Practicum, the other major anatomical location in Leiden was the room of the surgeons' guild, put into use in 1669.<sup>11</sup> The history of the Leiden surgeons' guild is inextricably linked to that of the Leiden medical faculty, especially in the field of examinations, regulations and anatomical training. Until 1669 the Leiden surgeons were also dependent on the University for the locations where their training, as well as their examinations would take place. Although the Leiden surgeons and their guild largely fall outside the scope of my investigation, their anatomical activities and their relations with the University will be considered in a separate part at the end of this book, which I have called 'coda'.

### **About this book**

While filling the gaps and shortcomings that to my mind have so far hampered the historiography of the Leiden anatomical theatre, first and foremost this study seeks to be a history of this academic institution from 1589 to 1712. Furthermore, its aim is to portray the scholars, anatomists, scientists and other individuals who worked in the *theatrum anatomicum* in the first hundred or so years of its existence. This partly biographical approach also accounts for the – at first sight somewhat random – years I have chosen as the beginning and end points of my story: 1589 was the year in which Petrus Paaw took up his professorship in Leiden and 1712 was the year of the death of Govert Bidloo. The choice of Bidloo's demise as the end date of this study perhaps requires an explanation: it is my opinion – and I hope this study will prove my point – that Bidloo was the last 'performer' in the public anatomical theatre in Leiden. Admittedly, Bidloo's successor in 1713, Johann Jacob Rau, was famed for his anatomical demonstrations in his Amsterdam home and in the Amsterdam anatomical theatre before he was appointed in Leiden, but his Leiden activities were cut short by an incapacitating accident in 1716.<sup>12</sup> After his death in 1719, Rau was succeeded by his pupil Bernard Siegfried Albinus, who – even more than Rau – placed primary value on anatomical specimens instead of anatomical demonstrations in the public theatre as the best way to reveal the human fabric. Besides, Albinus was not too keen on the old anatomical theatre; he preferred to perform his dissections in his private quarters and from 1725 onwards in a smaller anatomical theatre on the ground floor of the Faliebagijnkerk.<sup>13</sup> So, after Bidloo's death, and certainly from the 1720s on, the old *theatrum* functioned mainly as a museum, or rather a cabinet of curiosities.

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<sup>10</sup> About the Collegium Medico Practicum, cf. Suringar, 'Stichting der school voor klinisch onderwijs te Leiden, onder Heurnius en Schrevelius, in 1637', in *Nederlands Tijdschrift voor Geneeskunde*, Jg. 1861

<sup>11</sup> About the Leiden surgeons' room above the city's weighing house, cf. Luyendijk-Elshout and Thiels, 'De Leidse chirurgijns en hun kamer boven de Waag', in *Nederlands Kunsthistorisch Jaarboek* 31 (1980), p. 215 ff.

<sup>12</sup> Cf. Elshout, *Het Leidse kabinet der anatomie*, p. 35 ff., Molhuysen IV, pp. 312-313

<sup>13</sup> Molhuysen V, p. 19

This study also aims to investigate the place the anatomical theatre occupied in the whole of anatomical activity in Leiden during the 17<sup>th</sup> century. It will do so by describing the relationship of the theatre to the two other major anatomical locations in the city, the dissection room of the Collegium Medico Practicum and the anatomical activities at the surgeons' guild's hall; and by describing the changing cultural and scientific context of anatomy throughout the 17<sup>th</sup> century.

I have divided my story into three parts, followed by a synthesis that will also contain the conclusions I draw from my material. The first and by far the greater part of this study concerns the history of the Leiden anatomical theatre *per se* in the 17<sup>th</sup> century. The second part describes the birth and the heyday of the Collegium Medico Practicum, as well as its somewhat precarious existence during the final decades of the 17<sup>th</sup> century. While the smaller third part, the coda, tells the story of the Leiden surgeons, their anatomical activities and their uneasy symbiosis with the University. As to the exact pigeonhole this study might fit into, my investigations have taken me from the financial journals of Leiden University, through the private and at times not altogether savoury anatomical doings of 17<sup>th</sup>-century medical students and their professors, to humanist, post-humanist and early modern scientific intellectual culture; and this book has taken something from all these fields of study. Primarily this study aims to be a piece of cultural history; with anatomical investigation in 17<sup>th</sup>-century Leiden as its focus, it sets out to investigate the cultural context of science, religion, art and scholarship in the major university of the Dutch Golden Age.

