



## RESEARCH ARTICLE

## Solving a problem by dissolving a tradition. Munich anatomy's body supply since the Second World War

Mathias Schütz<sup>a,\*</sup>, Jens Waschke<sup>b</sup>, Georg Marckmann<sup>a</sup>, Florian Steger<sup>c</sup><sup>a</sup> Institut für Ethik, Geschichte und Theorie der Medizin, Ludwig-Maximilians-Universität München, Lessingstr. 2, 80336 München, Germany<sup>b</sup> Anatomische Anstalt, Ludwig-Maximilians-Universität München, Pettenkoferstr. 11, 80336 München, Germany<sup>c</sup> Institut für Geschichte, Theorie und Ethik der Medizin, Universität Ulm, Parkstraße 11, 89073 Ulm, Germany

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## ABSTRACT

The system of anatomical body procurement had to be reorganized in Germany after the end of the Second World War. At that time, the country had been split up and, in its Western zones of occupation, which eventually would form the Federal Republic of Germany, a democratic form of government was reintroduced. While political and economic conditions were improving, well-known obstacles of sufficient body supply turned out to be increasingly complicated to overcome. This development led to the dissolution of the traditional system of body procurement which had, during the centuries and political systems, always depended on the state. From the 1960s onwards, it became solely reliant on willed body donations. The article deals with the question how this fundamental change came to be, and which motives and arguments on the side of the anatomists as well as the administration were crucial for the final decision of limiting body procurement to willed donations. Using the example of the anatomical institute of Munich University, it is possible not only to highlight the political process of dealing with the problem of anatomical body procurement after 1945. Additionally, the quantitative changes in body supply resulting from those developments will be presented and analyzed. Thereby it can be displayed how the dissolution of the traditional system meant the solution of its inherent problems.

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## 1. Historical background: Anatomical body procurment after National Socialism

The questions of anatomical body procurement between 1933 and 1945 and of research on the bodies of victims of the “Third Reich” have fueled interest in the history of anatomy. This has led to a wide range of studies about German anatomists and anatomical institutes in the past decade (cf. Hildebrandt, 2016b). Regarding e.g. the anatomical institutes in Erlangen, Innsbruck, Munich and Würzburg, which predominantly received bodies from the central execution site at Stadelheim prison in Munich, recent investigations document the political and quantitative aspects of body supply, as well as the anatomists' personal involvement and their scientific exploitation of those bodies (Blessing et al., 2012; Czech, 2015; Noack, 2012; Schütz, 2016; Schütz et al., 2013, 2014, 2015,

2017). While the history of anatomy during National Socialism (NS) has been and still is at the center of several studies, little is known about the developments of the post-war period. After 1945, the body supply had to be reorganized first in the zones of occupation by the Allied authorities, and then by the East and West German successor states of the German Reich. A few studies mention the transformation of body procurement in West Germany into a system which would rely solely on body donations between the early 1960s and the 1980s (Becker et al., 2012, p. 80; Brehm et al., 2015, p. 105 f.; Doll, 2017, p. 85; Hildebrandt, 2016a, p. 96; Kaiser and Gross, 2015, p. 21; Mörike, 1988, p. 147 f.; Schütz, 2018; Winkelmann, 2018, p. 53; for the differing development under Communist rule in the East German Democratic Republic, cf. Feja, 2014, p. 97). However, the question why this process was introduced and how it affected German anatomy and its body supply has yet to be answered in a comprehensive manner. This article presents an analysis of the motives, discussions and decisions regarding this process after the Second World War, as well as the quantitative consequences of transforming anatomical body procurement, using the example of Munich anatomy. The focus on Munich and Bavaria results from the decentralization of the German polity in 1945: Having been an essential aspect of “Gleichschaltung” (alignment)

\* Corresponding author.

E-mail addresses: [mathias.schuetz@med.uni-muenchen.de](mailto:mathias.schuetz@med.uni-muenchen.de) (M. Schütz), [jens.waschke@med.uni-muenchen.de](mailto:jens.waschke@med.uni-muenchen.de) (J. Waschke), [georg.marckmann@med.uni-muenchen.de](mailto:georg.marckmann@med.uni-muenchen.de) (G. Marckmann), [florian.steger@uni-ulm.de](mailto:florian.steger@uni-ulm.de) (F. Steger).

and the solidification of National Socialist rule, the abolishment of German federalism was immediately revoked in 1945. Once again, the Bavarian State was responsible for the universities in Erlangen, Munich and Würzburg and, therefore, for their anatomies' supply with human bodies. The choice of the Munich example can, furthermore, be justified by the fact that it was the largest of those affected Bavarian anatomical institutes. Therefore, it turned out to be the loudest and most influential voice in the Bavarian discussions about body procurement after the war.

Those interactions were determined by a fundamental difference of opinion between the state and the anatomical institutes as to how body procurement should and could be reorganized after the experience of NS. On the one hand, the Munich anatomists' reactions to the collapse of body procurement after 1945 followed a traditional pattern: i.e. a traditional interpretation of why this situation was looming large, as well as a traditional method of resolving the situation. This course relied solely on the support of the Bavarian State and its willingness to enforce body procurement regardless of political and social consequences. On the other hand, the Bavarian State was confronted with a fundamental predicament: i.e. that of being responsible for the anatomies' ability to teach fundamentals of medical science, while agreeing less and less with the anatomists' demand for stricter rules and enforcement of body procurement. In consequence, Bavaria's anatomical institutes were at first supported through a decree from the State's Ministry of the Interior, in 1948. Already a decade later, they found themselves confronted with renewed shortages and discussions until finally, in 1960/61, the Bavarian State completely withdrew from its involvement in and responsibility for anatomical body procurement. This withdrawal ended a centuries-long tradition and left the problem of body procurement to the anatomists and the individual potential body donor: to the former's ability of gaining the public's approval for its demand and the latter's personal decision of committing a body for anatomical purposes. The following study first presents those discussions between the heads of Munich anatomy and the Bavarian administration. Second, it focuses on the quantitative consequences of the respective political developments in 1948 and 1960/61. The number of bodies delivered to Munich anatomy are presented, compared and discussed for the time between 1948 and 1986. The time span has been divided into three equally long periods of 13 years, their length being determined by the phase during which the decree was in effect, between 1948 and 1960. Such a quantitative comparison is not simply aimed at underlining how the dissolution of the state's traditional, interventionist role successfully solved the problem of anatomical body procurement. It also allows for an interpretation of this process as connected to a more general social transformation, allowing for the individuals' personal right to an informed decision, without interference from the state. The article relies on the in-depth documentation of the discussion between anatomists and the Bavarian administration which is kept at the Bavarian Main State's Archive in Munich (Bayerisches Hauptstaatsarchiv – BayHStA), as well as on the complete post-1945 body journals preserved at Institute of Anatomy in Munich (Anatomische Anstalt München – AAM).

## 2. Munich anatomy and the Bavarian state: Traditional problems and new approaches after 1945

After the defeat and break-up of the “Third Reich”, German anatomies faced a severe lack in body procurement. This problem seemed even more dramatic since it stood in stark contrast to the unprecedented availability of human bodies in the recent past, still present in the cellars of anatomical institutes: during NS and especially the Second World War, bodies had come in previously unknown numbers from the regime's central execution sites – in

the case of Munich, from Stadelheim prison (Schütz et al., 2017). While those same bodies were still used for the first dissection courses after the end of the war, no other deliveries were made to Munich anatomy. The discrepancy between NS and post war supply became obvious immediately after the anatomical institute resumed its work. Munich's university and medical school were reopened by the US-occupation authority in the summer of 1946 (Müller, 1997, p. 68 f.). Titus von Lanz, an anatomist who had been ousted from his position in 1938 due to quarrels with his superior as well as his marriage to a woman identified by the regime as “half-Jewish”, was reinstated and dealt with the institute's body procurement until the appointment of a new director (Schütz et al., 2015). In two letters, written to the Bavarian Ministry of the Interior before the beginning of the fall semester in 1946, he admitted that, on the one side, body deliveries had basically stopped in the last year of the war and never recommenced. On the other side, this development did not immediately affect the functionality of Munich anatomy since there were almost 50 bodies left for dissection purposes from during the war period (BayHStA, Minn 110383, Titus von Lanz to Bavarian State's Ministry of the Interior, 31 August 1946; Titus von Lanz to Bavarian State's Ministry of the Interior, 7 October 1946). This situation lasted until investigations were launched by German and US-authorities one year later, and most of the remaining bodies were confiscated (Noack, 2012, pp. 288–290; Schütz et al., 2017, p. 3 f.). About half of the primarily fifty bodies already had been used in dissection courses, and most likely all of those bodies stemmed from executed prisoners. Therefore, by 1947, almost none were left for teaching purposes, while student numbers had already begun to rise drastically (Müller, 1997, p. 71).

Confronted with such a dramatic situation, Munich's anatomists turned to the Bavarian State. Aside from the years 1933 to 1945, when the German administration including the universities fell under centralized rule and decisions were made in Berlin, body procurement had traditionally been negotiated between the anatomical institutes and the states. After 1945, already under occupation rule, the German polity and administration returned to such a federalized structure with the states being responsible for body procurement. In 1947, Robert Heiss was appointed head of Munich anatomy. He had received his scientific training as an anatomist in Munich and then led the anatomical institute of Königsberg university for 23 years, before fleeing the advancing Red Army and returning to Bavaria. He briefly headed Erlangen anatomy until he came back to Munich. Heiss repeatedly contacted the Bavarian Ministry of the Interior in order to draw attention to the collapsed system of body procurement and its threat to medical teaching. Even more explicitly than his colleague von Lanz had done a year earlier, Heiss underlined the cessation of body procurement. He ascribed this development to the fact that “the instructions regarding obligatory body deliveries have been forgotten during the years of the National Socialist regime because the accumulation of bodies of the convicted was so great that one could reject other bodies available for anatomical purposes.” (BayHStA, Minn 110383, Robert Heiss to Bavarian State's Ministry of the Interior, 31 October 1947) Heiss here referred to the Bavarian regulations of 1908/27, which specified the process of anatomical body procurement: i.e. they named the state and local institutions falling under this regulation, how they would process an unclaimed body with regards to the Bavarian anatomies, and admonished – in no way obliged – them to acknowledge the anatomies' needs and cooperate with them (Schütz, 2018, p. 197).

The regulations were still in force and had been brought to the attention of those institution concerned with anatomical body procurement already in 1946 (BayHStA, Minn 110383, Bavarian State's Ministry of the Interior to Bavarian District Councils, 6 August 1946; all translation of German quotes were provided by the authors, M.S. et al.). To Heiss, it seemed that there existed an additional

factor of reluctance to comply with those regulations: The state's institutions were not only unaware of existing legal provisions but, in some cases, actively ignored them. The head of Munich anatomy also had a peculiar explanation for this “passive resistance or refusal” of going along with the instructions regarding body deliveries. State employees claimed to want to avoid criminal conviction for aiding doctors and medical institutions with bodies of deceased persons. They allegedly feared to end up like those who had implemented official National Socialist policy towards e.g. people with mental illnesses or disabilities and were now prosecuted by the “Nuremberg court”. Heiss insisted on radical measures to counter such a refusal by means of a “categorical order” (BayHStA, Minn 110383, Robert Heiss to Bavarian State's Ministry of the Interior, 31 October 1947). The senior anatomist more clearly than most of his colleagues acknowledged that body procurement during the National Socialist “years of terror” had been founded on “violent measures” (BayHStA, Minn 110383, Robert Heiss to Bavarian State's Ministry of the Interior, 31 October 1947; BayHStA, MK 69046, Robert Heiss to Bavarian State's Ministry of Justice, 2 July 1946). Nevertheless, he called for the only means he perceived as efficient to ensure body deliveries to Munich anatomy: the state and its ability to give and enforce “categorical orders”.

The Bavarian State was not willing to lend its authority to such a problematic approach. However, its attempts to reinforce the pre-1933 rules of body procurement had been widely ineffectual and appeals not only from Munich anatomy but also from the other Bavarian institutes in Erlangen and Würzburg continued to highlight the lack of bodies. Finally, the administration took the initiative. In April 1948, the three involved Ministries of Education, Justice and the Interior decided that a formal enactment of a new regulation regarding anatomical body procurement might prove to be more productive than repeating the continued validity of the rules from 1908/27. Already one month later, a draft was presented by the Ministry of the Interior (BayHStA, Minn 110383, Bavarian State's Ministry of Justice to Bavarian State's Ministry of the Interior and Bavarian State's Ministry of Education, 7 April 1948; Bavarian State's Ministry of the Interior to Bavarian State's Ministry of Justice and Bavarian State's Ministry of Education, 7 May 1948). The speed of the draft's submission may probably be attributed less to the urgency of the matter than simply to the fact that it contained basically the same rules as its predecessors: It recommended that bodies of deceased persons which were not claimed for burial and therefore would have to be buried by charities or the communities, should be reported to and used by anatomical institutes. Beyond that, it emphasized that a “coercion of the body's surrender to the anatomies may not occur under any circumstances.” (BayHStA, Minn 110383, Bavarian State's Ministry of the Interior to Bavarian State's Ministry of Justice and Bavarian State's Ministry of Education, 7 May 1948). However, this mere compliance with the tradition of a state-accredited system of body procurement triggered reflections about the question if such a tradition was worthy of being upheld at all after it had been uprooted during NS. Additionally, it seemed doubtful if it would be possible to uphold such a system in the face of growing societal concerns. The Ministry of Justice pled for a discreet handling of the matter and vetoed a publication of the final decree. It did so out of fear that it might lead to an uproar within communities especially vulnerable under German post-war conditions: the elderly and the millions of refugees from former German territories in Eastern Europe. It claimed that societal consciousness had fundamentally changed during the past decennia and would not tolerate such an intrusion of the state into personal rights. Also, it plead for deleting any references to the fact that the crisis of body procurement existed “since 1945”, and not to evoke the impression of an actual “new” regulation. The idea was to underline the continuity to the pre-1933 decrees, which would counteract the association of body procurement with injus-

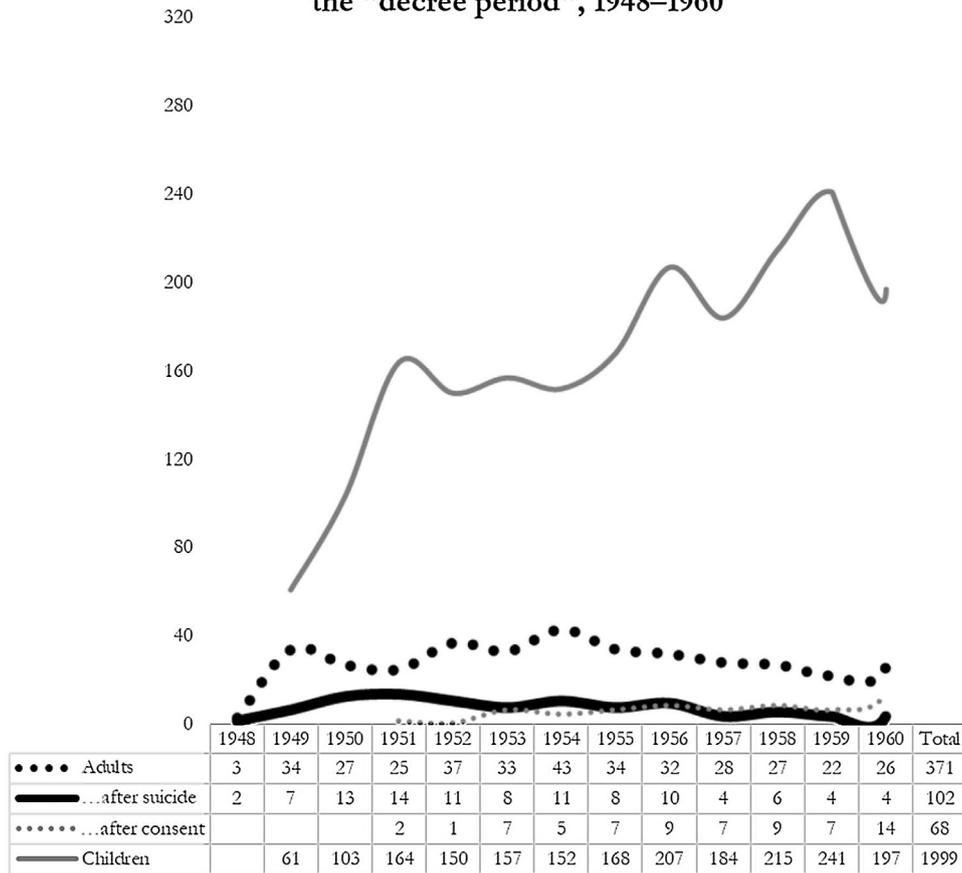
tice and the overreaching state's authority of NS, when “anatomies were essentially supplied with bodies of the executed” (BayHStA, Minn 110383, Bavarian State's Ministry of Justice to Bavarian State's Ministry of the Interior, 27 August 1948).

The decree, issued by the Ministry of the Interior in late 1948, did in fact abstain from those criticized references and was not made public, but solely delivered to the affected agencies. The Bavarian anatomists obviously did not share the concerns regarding societal and historical sensitivities. In an appeal and corresponding information sheets – published in the Bavarian Medical Association's journal and co-signed by the deans of the three medical schools as well as the involved Ministries – the heads of the anatomical institutes in Erlangen, Munich and Würzburg underlined the “state of emergency of anatomical university institutes”. They campaigned for an understanding and cooperative attitude and did not shy away from mentioning that the crisis of body procurement was in effect since the end of the war (BayHStA, Minn 110383, Bavarian State's Ministry of the Interior to Bavarian District Councils, 29 November 1948; [Dekane der medizinischen Fakultäten der Universitäten Erlangen, München und Würzburg et al., 1948, p. 125 f.](#)). Those indiscretions notwithstanding, the re-legitimization of the system of anatomical body procurement and especially of the role of the state's agencies was initially successful. The anatomists' complaints decreased significantly, aside from ongoing discussions about the regulation's scope, submitted by Curt Elze, Würzburg's forever unsatisfied head of the anatomical institute (BayHStA, Minn 110383, Curt Elze to Bavarian State's Ministry of the Interior, 12 May 1950, 21 October 1950, 24 January 1952; BayHStA, MK 69046, Curt Elze to Bavarian State's Ministry of Education, 12 January 1951, 24 January 1952). As can be taken from Munich anatomy's body registers, as well as from a chart provided by Titus von Lanz naming the bodies' origins, the reluctance of communities and state agencies to cooperate with the anatomies ended with the Ministry of the Interior's new decree in November 1948 (Cf. [Graph 1](#); BayHStA, MK 69046, Titus von Lanz to Bavarian State's Ministry of Education, Table 1, 14 January 1964). Munich anatomy had received one single body between the end of the war and the issuing of the new decree, in November 1947; the decree immediately helped to turn this disastrous development around. It provided a continuous flow of bodies, especially from the police, communities, retirement homes and medical institutions, as well as also from prisons and local public health departments (Gesundheitsämter).

Nevertheless, the solution to the problem of anatomical body procurement was only short-lived. In the 13 years between 1948 and 1960, Munich anatomy received a yearly average of 29 bodies (see below for further explanations and discussions of the data). After a peak in the mid-fifties, yearly quantities started again to decrease and finally fell below the average amount. Munich was not alone with this recurring problem: just like ten years before, the heads of all Bavarian anatomical institutes – Karl Friedrich Bauer in Erlangen, Titus von Lanz in Munich and Kurt Neubert, who had succeeded Elze in Würzburg in 1952 – started pressing the concerned ministries. They again requested a stricter enforcement of existing regulations and asked for a renewed, combined appeal to the medical community for cooperation in matters of body procurement (BayHStA, MK 69046, Karl Friedrich Bauer to Bavarian State's Ministry of Education, 6 April 1957; Rectorate of Munich University to Bavarian State's Ministry of Education, 5 June 1959; BayHStA MK 72474, Kurt Neubert to Administrative Committee of Würzburg University, 31 July 1959). Just like ten years before, anatomists regarded a lack of acknowledgement and compliance by the various institutions as the root of the problem, and just like ten years before, they appealed to the state to solve this problem.

However, unlike ten years before, the Bavarian ministries involved in anatomical body procurement no longer saw a possibility to reform or strengthen existing rules. Instead of another

### Body deliveries to Munich anatomy during the "decree period", 1948–1960



**Graph 1.** Development of the number of bodies procured by Munich anatomy between the introduction of the 1948-decree and its revocation. After a short period of stabilization the numbers decline again in the mid-1950s while the number of deceased children's bodies being sent from hospitals rises drastically, highlighting the shortage of bodies for dissection.

compromise between the conflicting interests, the urgency to relinquish those rules and abolish the system of body procurement altogether became evident. While the anatomists' stance was still supported by the Ministry of Education, the Ministries of Justice and the Interior – responsible for agencies like police, prisons or health departments who were directly affected by the current system – conveyed their fundamental “concerns” with the decree of 1948. They now were convinced that a “notification requirement” for bodies was “devoid of any basis” and disclosed their respective intention to repeal the regulation. The anatomical institutes would have to arrange their body procurement in direct negotiations with “those persons or institutions” who inherited some form of authority to decide what was supposed to happen with a deceased person's body, without any interference from the state (BayHStA, MInn, 110383, Bavarian State's Ministry of Justice to Bavarian State's Ministry of the Interior, 24 September 1957; Bavarian State's Ministry of the Interior, Note, 29 October 1957; BayHStA, MK 69046, Bavarian State's Ministry of the Interior to Bavarian State's Ministry of Education, 15 June 1959). The dynamic set off by this decisive shift in the ministries' consciousness turned out to be irreversible. It would not even be stopped by the conference of states' ministers of education, to whom the head of the anatomists' association Anatomische Gesellschaft, Wolfgang Bargmann, appealed in 1960 because of the profound lack of bodies for anatomical teaching in most of West Germany's institutes. Bargmann revealed alarming numbers, claiming that, in the fall semester of 1958/59, only at two anatomical institutes the student-body ratio had been “14:1, in 3 cases 16:1, in 2 cases 18:1, in 1 case respectively 24:1, 28:1,

30:1, 40:1, 60:1, 150:1” (BayHStA, MK 69046, Wolfgang Bargmann to Permanent Conference of the States' Ministers of Education, 24 March 1960; see below for Munich anatomy's student-body ratio).

Bargmann displayed the dramatic situation at many West German anatomies, but he was not able to affect the Bavarian discussion any more than the local anatomists. Instead, the Bavarian State's Minister of the Interior confirmed, in August 1960, that it had just revoked the regulations regarding anatomical body procurement and would not reinstate any new decrees since “the former way of ‘supplying’ the anatomies with bodies had too much resemblance with police practices” (BayHStA, MInn, 110383, Bavarian State's Minister of the Interior to Permanent Conference of the States' Ministers of the Interior, 1 August 1960). Still, a solution to the undeniable lack of bodies and the danger it constituted for medical teaching needed to be found. And it was found, by reversing the arguments which had led to the decree of 1948. 13 years earlier, the Bavarian administration had decided in favor of its own involvement in the procurement of bodies for the anatomies, which needed to be kept secret in order not to confront arising societal concerns. In 1961, those concerns exactly were met by practically ending the state's involvement and turning to the public instead.

Together with the heads of the anatomical institutes in Erlangen, Munich and Würzburg, the Bavarian administration held a press briefing in order to publicly address the fact that anatomists were in dire need of bodies for medical teaching. Aside from elaborating on the educational necessity of anatomical dissection, the anatomists laid stress on the assertion that all bodies would be treated with the greatest deference and buried according to indi-

vidual wishes. Instead of force and secrecy, the system would now be based on consent and transparency. The Ministry of the Interior underlined those two aspects with an accompanying resolution which described the envisioned process and informed the concerned agencies and institutions about the possibility of cooperating with anatomical institutes (BayHStA, MInn, 110383, Bavarian State's Ministry of the Interior, Note to Press and Broadcast, 14 April 1961; [Bayerisches Staatsministerium des Innern, 1961](#)). This dissolution of anatomical body procurement's tradition, a tradition that dated back to the early modern period, was an overwhelming success especially in the eyes of the anatomists. Immediately after their public proclamation, Titus von Lanz observed a fundamental change in attitudes towards anatomy and an increase of body donations and, in late 1961, he enthused about the newly available quantities, surpassing the body supply of the several “decades”, and concluded that “the open portrayal of the question had blown a breach into the public opinion's resistance” (BayHStA, MK 69046, Titus von Lanz to Bavarian State's Ministry of Education, 27 April 1961; BayHStA, MInn, 110379, Bavarian State's Ministry of the Interior to Permanent Conference of the States' Ministers of the Interior, 29 December 1961).

### 3. Quantitative change of Munich anatomy's body procurement, 1948–1986

The dissolution of the tradition of anatomical body procurement solved its inherent problem, but how did this process manifest itself over time? To gain a deeper understanding of the long term-impact, it seemed necessary, first, to learn about the overall quantitative dimension of this transformation. Second, underlying changes in the composition of those bodies being delivered to Munich anatomy needed to be deciphered. Third, the question if the transformation actually influenced the situation in the dissection room had to be addressed, as well as the relationship of this transformation to general social developments. As has already been stated, only few points of reference from other anatomical institutes exist for the post war-period. In Freiburg, willed body donations were not under serious consideration by the public as well as the anatomists until the 1960s; in Cologne the first donated bodies were not recorded until 1966 but immediately helped to increase the overall number of deliveries beyond the low average of 19 bodies per year ([Hildebrandt, 2016a, p. 96](#); [Kaiser and Gross, 2015, p. 21](#)). In Heidelberg and Tübingen it took until the mid-1970s to finally obtain a sufficient amount of bodies for the dissection course through donations ([Doll, 2017, p. 85](#); [Mörke, 1988, pp. 148 f., 165](#)). In Frankfurt, body donations positively influenced the number of bodies received from the late 1960s onwards and became the single source of procurement in 1978, although not significantly altering the long term-average of 31.9 bodies per year ([Brehm et al., 2015, p. 105 f.](#)). Exact data exists for the anatomical institute of the University of the Saar in Homburg: it shows a continuous increase in body procurement from the mid-1960s onwards and even differentiates between male and female bodies. Unfortunately, the essential number of donated bodies is not specified although the information is given that sufficient amounts from willed donations could not be obtained until the late 1970s ([Becker et al., 2012, p. 80](#)). In West Berlin, it took even longer, until the 1980s, to get to this point ([Winkelmann, 2018, p. 53](#)). The different examples highlight very different and sometimes contradicting trends. Therefore, the following analysis of the data collected for Munich anatomy's body procurement after 1945 is inevitably of a somewhat pioneering and hypothetical nature. Future studies will need to compare, specify or correct the assumptions drawn from the Munich example.

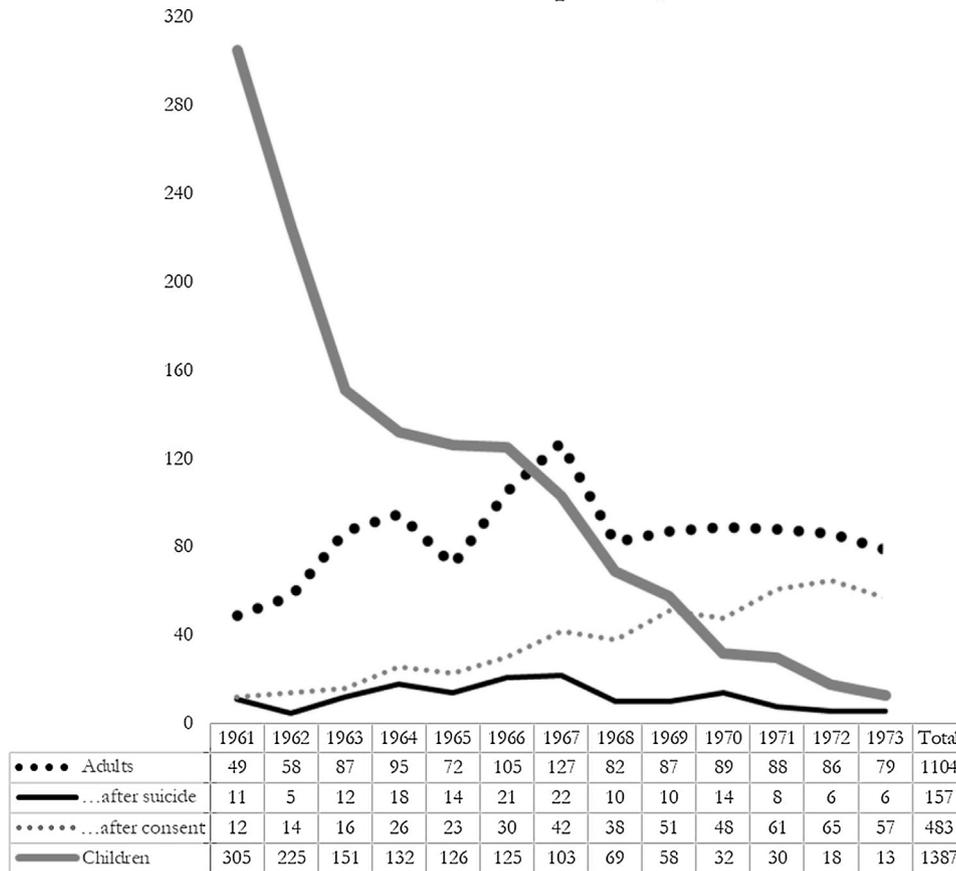
The analysis aims at answering the following questions: How did the amount of procured bodies change over time, how does

the increase or decrease in the disposability of certain groups of deliveries (cases of suicide, children, body donations, male/female) reflect the overall transformation of body procurement, and how did this transformation influence the student-body ratio in the dissection room, ergo: how fast, to what extent, and for which reason did the dissolution of the tradition of anatomical body procurement actually solve the problem of shortage? To answer these questions, the body journals of Munich anatomy were evaluated for the time span from 1948 until 1986 (AAM, Leichenbuch 1947–1967; Leichenbuch 1967–1977; Leichenbuch 1977–1984; Leichenbuch 1984–1990). The limitation of the investigation to those 39 years was not randomly set; rather, it was consciously chosen in order to gain a comparative insight into the development of body procurement, according to three equally long periods of thirteen years. The length of those periods, and through their addition of the overall timeframe, was determined by the number of those years exactly during which the Bavarian Ministry of the Interior's regulation was intact, comprising the years 1948 to 1960, hereafter referred to as the “decree period”. The two following, respectively thirteen year-long time spans form the “transformational period” from 1961 to 1973, and the “normalization period” from 1974 to 1986. Since, as the term “normalization” implies, body procurement had by then settled on a reliable level it seemed redundant with regards to the question of transformation to prolong the period of examination beyond the mid-1980s.

To go beyond the mere statistical impression, further data from the body journals were evaluated according to several groups of persons who represent the tradition and the transformation of anatomical body procurement: First, the number of persons who had committed suicide, standing for the past of obtaining unclaimed bodies which goes back to the advent of anatomical body procurement in the early modern period. Additionally, as a second parameter for the significance of unclaimed bodies, the number of what was officially labeled as “children” and listed in a separate register was recorded: stillborn children and aborted fetuses, premature deliveries and infants deceased shortly after birth (AAM, Kinderleichen 1. Mai 1949 bis 22. Mai 1970; Kinderleichenbuch [1970–1989]). Those bodies, who were completely ignored by the discussions about body procurement during the 1940s and 1950s and have, so far, also been widely neglected by historical research (cf. [Winter et al., 2018](#)) actually constituted a major source of human specimens; their disposability reflected the overall developments of body procurement, i.e. the lack or abundance of adult bodies seems to have influenced the necessity to procure children's bodies. Third, the number of persons whose bodies were committed to Munich anatomy due to some form of explicit consent – either their own or their relatives' – and represent the future of body procurement as a system solely based on donations. Fourth, the overall number of adult bodies obtained were distinguished according to their sexes. And fifth, the number of enrollments at Munich's medical school ([Ludwig-Maximilians-Universität 1948/49–1969/70](#); UAM, Slg-X-8 [Ludwig, 2017](#) Ludwig-Maximilians-Universität 1948/49–1969/70; UAM, Slg-X-8) were put in relation to the amount of bodies obtained to highlight the effect of body procurement's transformation on the teaching situation.

The following sections and the accompanying graphs will consecutively highlight one of the aforementioned groups – suicides, donations, children, sexes, students – in order to correlate them with the general development of Munich anatomy's body procurement. Regarding the first phase from 1948 to 1960 it has already been stated that the Ministry of the Interior's decree from 29 November 1948 initially had a positive effect on Munich anatomy's body supply, as can be taken from [Graph 1](#). After only one single body had been delivered to the institute before the decree was issued, in November 1947, the numbers started rising immediately

### Body deliveries to Munich anatomy during the "transformational period", 1961–1973



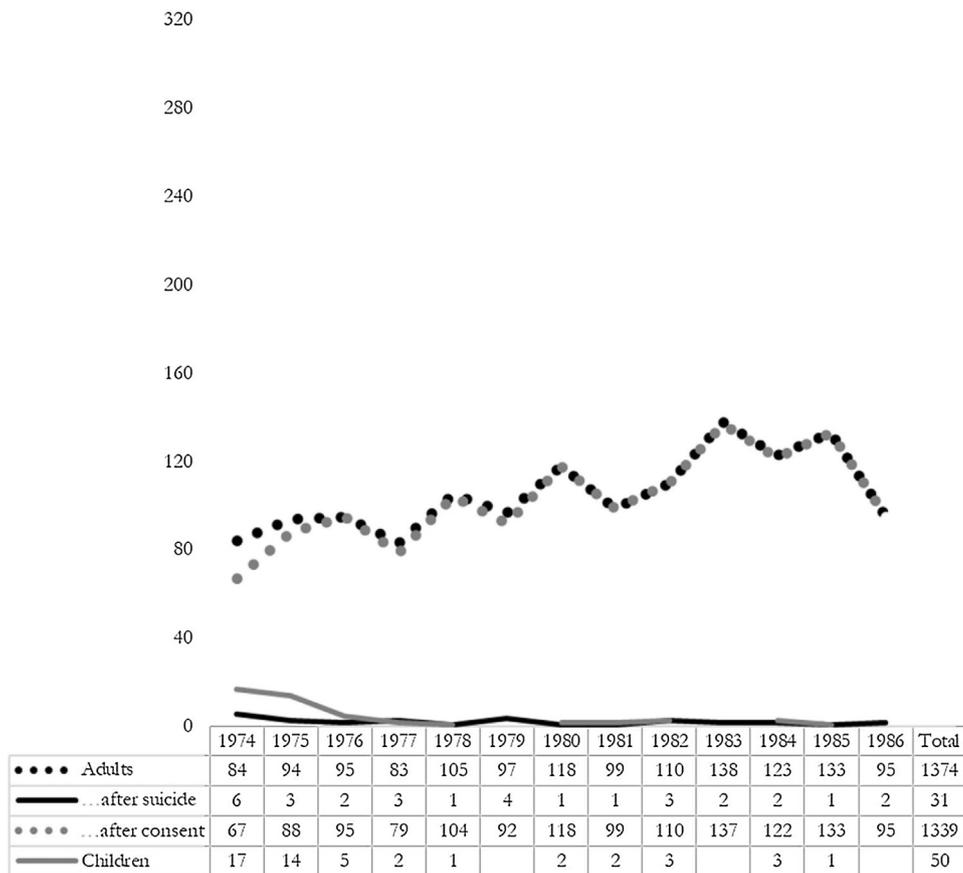
**Graph 2.** Development of the number of bodies procured by Munich anatomy after the revocation of the 1948 decree. The immediate impact of the measure on the willingness of commit a body for anatomical purposes is evident, while the demand of deceased children’s bodies diminishes rapidly.

thereafter. Nevertheless, compared not only with the unprecedented “abundance” during the war but also with a yearly average of 109 bodies between 1930 to 1937, the number of incoming bodies under the decree of 1948 turned out to be rather modest, with an average of 29 bodies a year (Schütz et al., 2017, p. 9; all data presented in the article have been rounded to integers). Additionally, those quantities not only turned out to be modest, but also unreliable: after a peak in 1954 they again started to decrease and fell, in 1959, to the whole period’s low-point. This overall development can be understood by comparison with the particular development of the number of bodies delivered to Munich anatomy related to cases of suicide. Graph 1 clearly shows that the overall number was dependent on the number of cases of suicide. This interconnectedness highlights the rearing up and collapsing of the tradition of anatomical body procurement as measure dependent on the delivery of unclaimed bodies. Those unclaimed bodies stemmed, in most cases, from socially stigmatized persons such as suicide cases. It has to be noted, though, that the decline in deliveries after suicide in the late 1950s was not at all linked to a corresponding decline in suicides: for the districts of Upper Bavaria, Lower Bavaria and Swabia – Munich anatomy’s catchment area – the share of suicides within the overall mortality rate remained steady during the whole decennium (Statistisches Jahrbuch für Bayern, 1952, p. 60; 1955, p. 56; 1958, p. 38; 1961, p. 32). It rather shows the declining willingness of institutions dealing with bodies of suicidal persons to observe the procurement regulations. This tendency is additionally highlighted by an accompanying rise in deliveries after consent since the mid-1950s. Still, in the “decree period”, deliveries after sui-

cide accounted for 27%, deliveries after consent only for 18% of all incoming bodies.

After the Bavarian Ministry of the Interior’s decree had been revoked, the number of deliveries after suicide did not automatically diminish, but their share in comparison to the number of deliveries after consent did. Furthermore, those two categories successively lost their dichotomy, i.e. Munich anatomy was provided with bodies of persons who had committed suicide not because of some institution’s decision but due to their own or their relatives’ will. Much more impressive and evident than the development of the suicide cases was the drastic decline in the number of children’s bodies being delivered to Munich anatomy after 1961. This development was following its own dynamic, having no connection whatsoever to the decree of 1948 and its revocation. It rather represented a way of disposing those bodies, which did not fall under burial requirements and would not be included in those requirements for further decades: a place of burial for stillborn fetuses and deceased premature deliveries did not exist in Munich until 2007 (Spranger, 1999; Bertram, 2016, p. 38; Lorenz, 2015, p. 83). This specific way of disposal becomes evident when the dramatic increase in deliveries of children’s bodies is understood as being neither related to regulations regarding anatomical body procurement, nor to the general infant mortality rate in Upper Bavaria, Lower Bavaria and Swabia. This rate decreased by more than 40% between 1949 and 1960, whereas the amount of children’s bodies received by Munich anatomy increased by more than 200% during the same period (Statistisches Jahrbuch für Bayern, 1952, p. 55; 1961, p. 30; cf. Graph 1). This development must be understood as a lack of

### Body deliveries to Munich anatomy during the "normalization period", 1974–1986



**Graph 3.** Number of bodies procured by Munich anatomy while the transformation of body procurement is completed. The share of willed donations reaches 100% while the number of deliveries after suicide and of deceased children's bodies, representing the coercive aspects of anatomical body procurement, almost completely fade away.

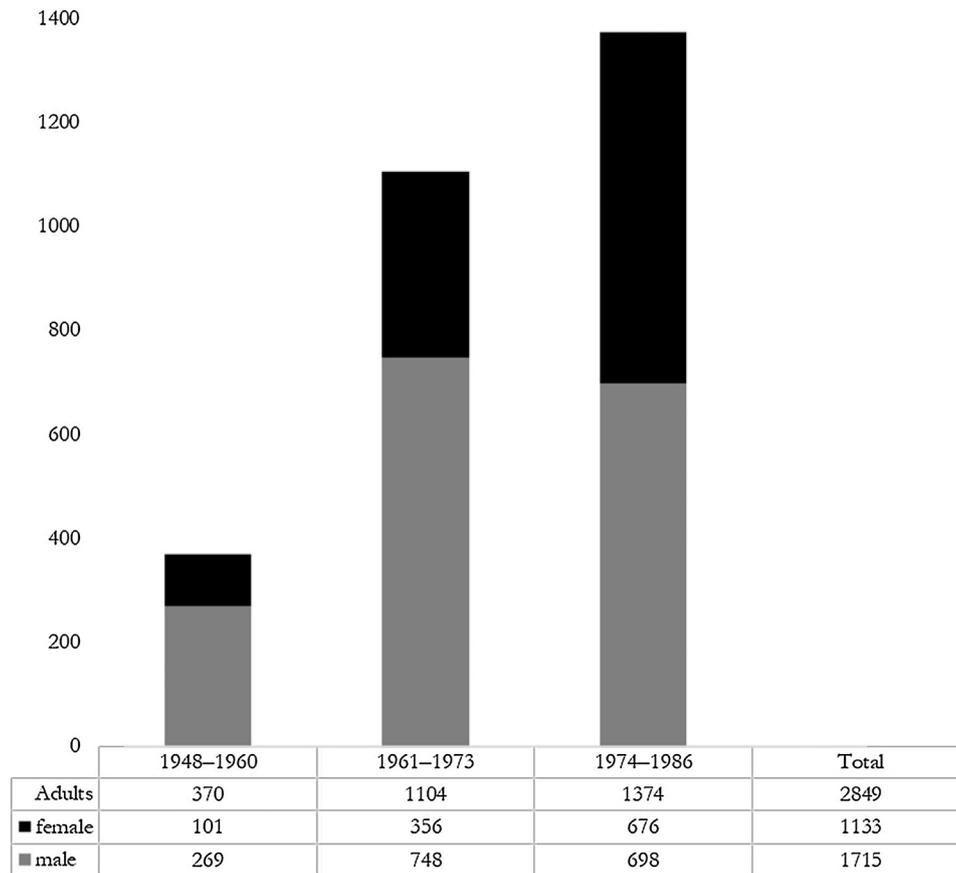
acknowledgement of these remains being thoroughly human. As late as 1964, Titus von Lanz still had to ask for those children's bodies to be picked up at the hospitals by car, instead of transporting them "in isolated plastic bags in the streetcar" (BayHStA, MK 69406, Titus von Lanz to Administrative Committee of Munich University, 27 May 1964). However, the abundance also needs to be understood as an indicator of the lack of adult bodies, which those children's bodies had to compensate for. This becomes evident looking at the "transformational period" after the 1961 (cf. Graph 2): while the overall procurement rose steadily, the number of children's bodies coming into Munich anatomy basically collapsed.

Since there was no formal relation to the revocation of the decree of 1948, the reason for this rapid decline can only be found in the opposing trend of the number of deliveries after consent: While in 1961, the number of children's bodies had reached its peak, at the end of the "transformational period" it had been diminished by more than 95%. Once again, this development showed no correlation with the infant mortality rate, and it commenced much earlier than the reform of the Bavarian burial requirements, introduced in 1970, provided for the burial of stillborn children and fetuses weighing at least 500 g (Statistisches Jahrbuch, 1964, p. 31; 1975, p. 54; cf. BestG Bayern, 24 April 1970, Art. 6, 1). Although no documentation exists regarding the anatomical institute actively turning away from the procurement of children's bodies before this reform was introduced, this decline must be interpreted as related to the number of adult body deliveries after consent, which almost quintupled in the same time span. The high influx of chil-

dren's bodies had been born out of necessity and disposability, and it ended because the number of adult bodies finally reached a sufficient and steady level. This stabilization was not only due to the increasing number of bodies who were delivered after consent, which, in the "transformational period" still only made up for 44% of all incoming adult bodies. Furthermore, the revocation of the 1948-decree, as well as the transparent and public handling of the delicate matter of anatomical body procurement, seems to have had a liberating effect on those institutions involved with unclaimed bodies, which had been reluctant to comply with the anatomists' requests before 1961. Still, the "transformation" was effective and sustainable. It led to the increasing "normalization" of bodies being donated for anatomical purposes, as can be taken from Graph 3: while the two trends representing the anatomical tradition of procuring unclaimed bodies – suicide cases and children – became evanescent, the number of deliveries after consent reached 100% of all incoming bodies for the first time in 1976. Hereafter, it never again fell significantly beyond this level, providing Munich anatomy not only with an exceptionally steady, but also with an exceptionally high number of bodies each year. The overall number of adult bodies procured during the "normalization period" had risen by 24% in comparison with the "transformational period" – and by a remarkable 270% in comparison with the "decree period" –, with bodies delivered after consent accounting for a share of 97%.

Comparing those three analytical periods, the quantitative change itself is striking. It is concurrent with the development in Homburg/Saar but, at the same time, quite distinct from the situa-

### Distribution of body deliveries to Munich anatomy according to sexes, 1948–1986

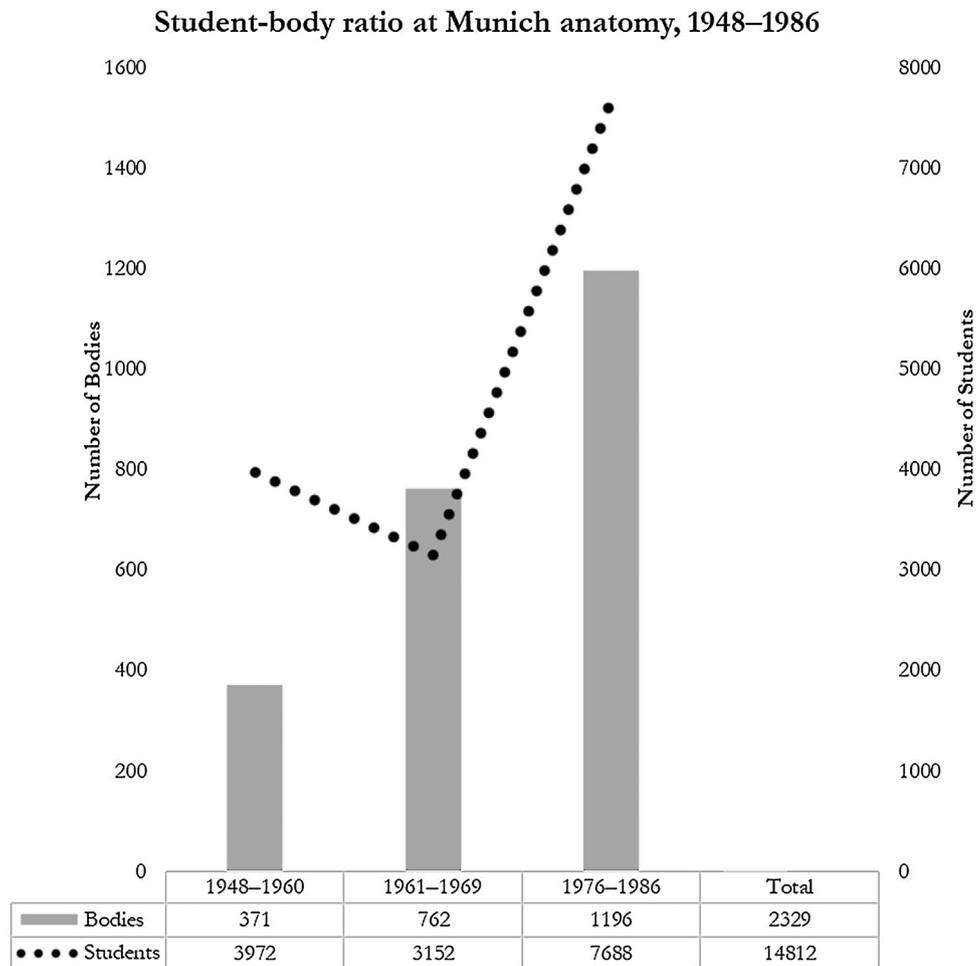


**Graph 4.** Shares of female and male persons whose bodies are procured by Munich anatomy over the three periods of examination. The introduction and normalization of willed donations goes along with a steady rise of the total amount and relative share of female bodies.

tion at the anatomical institute in Frankfurt/Main which saw much greater fluctuations (Becker et al., 2012, p. 80; Brehm et al, 2015, p. 105). All in all, 2,849 bodies – an average of 79 bodies a year – were delivered to Munich anatomy in those 39 years. The “decree” period comprised only 13% of those bodies, a ratio that tripled during the “transformational” period to 39%, while the last 13 years of “normalization” accounted for almost half of all bodies delivered to Munich anatomy (48%). This successful dissolution of the tradition of anatomical body procurement, signified by the opposing trends of decreasing deliveries after suicide – and of children’s bodies – and increasing deliveries after consent, seems to have had a cause beyond the measure itself. Obviously, the question why this process came about in such an unambiguous and rapid manner is not easy to answer. One possible motive must be seen in the assumption of burial costs by the anatomical institutes which, until 2003, were eligible to request a funeral allowance from health insurers (Becker et al., 2012, p. 81; cf. Schäfer and Gross, 2009). Already the Ministry of the Interior’s decree from 1948 had provided for the assumption of all costs related to anatomical body procurement – including the burial – by the anatomical institutes, and the revocation of the decree did not affect this policy (BayHStA, MInn 110383, Bavarian State’s Ministry of the Interior to Bavarian District Councils, 29 November 1948; Bavarian State’s Ministry of the Interior, Note to Press and Broadcast, 14 April 1961; Bayerisches Staatsministerium des Innern, 1961). The plausibility of such an incentive also affecting the decision towards willed donations notwithstanding, no empirical references suggesting a financial calculation can be found in the

evaluated documents. When the head of Erlangen anatomy, Karl Friedrich Bauer, forwarded ten letters from potential donors to the Bavarian administration in 1957 to underline his claim that prejudices regarding anatomical body procurement were a myth and, therefore, a stricter enforcement of existing rules would be legitimate, no financial claims were raised in those letters (BayHStA, MK 69046, Karl Friedrich Bauer to Bavarian State’s Ministry of Education, 6 April 1957). Therefore, it must be assumed that the distinct development of body procurement after 1961 went along with, and was enabled by, underlying social processes.

The most obvious example for anatomical body procurement appearing to represent a larger social development was the slow but steady movement towards equality of the sexes. The numbers show a significant shift in the distribution of body deliveries to Munich anatomy between the sexes, as can be taken from Graph 4. In the “decree” period, the vast majority of all bodies stemmed from men (73:27), which was not least due to an even higher ratio with suicide cases (86:14) while deliveries after consent showed a more even distribution between the men and women (60:40). The transformation of body procurement between 1961 and 1973 did not immediately affect the distribution between the sexes. It remained at almost the same ratio, regarding the overall numbers (68:32) as well as suicide cases (83:17) and deliveries after consent (58:42). Only in the period of “normalization” overall deliveries as well as deliveries after consent were evenly split between men and women, comparable to the development at the anatomical institute in Homburg/Saar (Becker et al., 2012, p. 80). The unequal distribu-



**Graph 5.** Numbers of bodies procured by Munich anatomy and number of students enrolled in the first semester at Munich medical school over the three periods of examination. While incomplete, those numbers indicate that the transformation of body procurement also had a positive effect on the teaching situation in the dissection room.

tion ratios of the earlier periods changed because of a decrease in the number of deliveries of male bodies and a drastically higher number of women donating their bodies to Munich anatomy, almost twice as many as during the “transformational” period. Even in cases of suicide, the ratio changed dramatically although not to the point of an equal distribution (61:39). This adjustment can only be partly explained with the development of mortality rates of men and women, which, for Munich anatomy’s catchment area of Upper Bavaria, Lower Bavaria and Swabia, steadily remained at 51:49 until the early 1970s. Thereafter, the rate started to shift towards a majority of deceased women, a generational development related to the high number of male casualties of the Second World War. In 1986, it the numbers had more than reversed themselves to 47:53 (*Statistisches Jahrbuch für Bayern* 1952, p. 54; 1972, p. 34; 1987, p. 31). However, this rather gradual alignment alone cannot explain the massive shift in the ratio of male and female bodies delivered to Munich anatomy from the “decree period” to the “normalization period”. Instead, it should be interpreted as related to the general development towards female self-determination, allowing for women to chose what should and would happen to their bodies also after their death. Solving the problem of anatomical body procurement by dissolving its traditional conduct went along with, and was enabled by, the process of putting an end to other social traditions and stigmata. Therefore, those developments should be understood as intertwined, although the precise relationship between the rise of an ethics of

consent in medicine and the social development of liberal Western democracy after 1945 still require a much more thorough investigation than can be delivered here (cf. [Faden and Beauchamp, 1986](#); [Jonsen, 1998](#)).

Finally, the transformation of anatomical body procurement needs to be reviewed regarding its effect on the teaching of anatomy, i.e. the situation in the dissection room. Since no numbers of participants of the dissection courses exist for Munich, a benchmark needed to be established. Therefore, the number of first-semester enrollments was identified, at least for those years with verifiable data, which leaves a gap for the years 1970–1975 – the numbers were compared to the West German students’ statistics and those years with seemingly unreliable or incomplete data were eliminated (cf. [Schagen, 2001, p. 24](#)). Although the numbers are not complete and must be understood as an approximation of the situation in Munich’s dissection room, [Graph 5](#) clearly shows the improving effects of the transformation of anatomical body procurement on the student-body ratio: While the “decree period”, with as average of 306 enrollments per year, accounted for a ratio of 11:1, the available data for the “transformational period” shows a jump to 4:1 with already 350 students per year. The recorded years of the “normalization period” add up to an proportion of 6:1 with an average of now 698 students enrolling every year. The same ratio also applies for the whole period between 1948 and 1986, which saw an overall average of 449 enrollments. These numbers indisputably deliver an insuffi-

cient picture. If one considers the situation of the fall semester 1958/59, which Wolfgang Bargmann decried in his intervention with the ministers of education, it become clear that this was also an especially dire time in Munich which is not adequately represented by the average student-body ratio of the “decree period”: the dissection course, covering second and third semester students, needed to accommodate an – ascertainable – number of 512 students with 27–28 bodies, which meant a student-body ratio of 18:1. The obvious shortcomings of the available data taken into account, it nevertheless underlines the overall finding that the transformation of anatomical body procurement was able to fundamentally change the working conditions in the dissection room and even provide a sufficient amount of bodies for the rising student numbers after the reform of enrollment regulations in 1972.

#### 4. Conclusion

In the aftermath of the Second World War, German anatomists tried to approach the problem of body procurement according to their traditional beliefs and concepts. They tried to turn back the clock to the period before 1933. In the case of Munich, the anatomical institute’s head Robert Heiss, although acknowledging the significant impact of NS’s system of judicial terror on anatomical body procurement, was not willing to scrutinize the established processes. Instead, as the only means of improving the collapse of body procurement after 1945, he pled for a strict application of the existing rules and their enforcement. By appealing to the state’s force instead of the public’s understanding and approval, anatomists only tended to deepen existing prejudices towards their work and their institutions. The discussions after 1945, the change of mind within the Bavarian administration and its final decision to abolish its involvement in anatomical body procurement for good, shows how the downfall of NS was also a turning point for German anatomy. After 1945, because of the obvious medico-judicial collaboration anatomists had been a part of, it seemed neither possible nor desirable, from the standpoint of political as well as public interest, to continue ignoring societal concerns regarding body supply for anatomical institutes. This standpoint was not shared by Munich’s anatomists who would not be convinced by theoretical deliberations. It was only due to the fact that the Bavarian State’s theoretical reasoning was proven right empirically, i.e. by the rising number of body deliveries that Munich’s anatomists were able to embrace the new approach. Therefore, the dissolution of the traditional system of anatomical body procurement was only possible because it successfully solved its traditional, inherent problems – while, at the same time, this solution could only have been successful because it dissolved a tradition which had been identified with heteronomy and was replaced by the individual’s autonomous decision.

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