

From scientific exploitation to individual memorialization: Evolving attitudes towards research on Nazi victims' bodies

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Abstract

During the Third Reich, state-sponsored violence was linked to scientific research on many levels. Prisoners were used as involuntary subjects for medical experiments, and body parts from victims were used in anatomy and neuropathology on a massive scale. In many cases, such specimens remained in scientific collections and were used until long after the war. International bioethics, for a long time, had little to say on the issue. Since the late 1980s, with a renewed interest in the Holocaust and other Nazi crimes, a consensus has increasingly taken hold that research on human tissues and body parts from the Nazi era is inadmissible, and that such specimens should be removed from scientific collections and buried. The question of what to do with scientific data obtained from these sources has not received adequate attention, however, and remains unsolved. This paper traces the history of debates about the ethical implications of using human tissue or body parts from the Nazi period for scientific purposes, primarily in the fields of anatomy and neuropathology. It also examines how this issue, from after the war until today, influenced the establishment of legal and bioethical norms on the use of human remains from morally tainted sources, with a particular emphasis on Germany and Austria. It is argued that the use of such specimens and of data derived from them is unethical not only because of potential harms to posthumous rights of the victims, but also because such use constitutes a moral harm to society at large.

KEYWORDS

anatomy, Austria, body donors, ethics, Germany, history of bioethics, human material, National Socialism, Nazi medicine, neuropathology, posthumous interests

1 | INTRODUCTION

In 1945, neuropathologist Julius Hallervorden from the world-renowned Kaiser Wilhelm Institute for Brain Research in Berlin-Buch was interviewed by US intelligence officer Leo Alexander,

who was investigating the advances of German neurology during the war. During their conversation, Hallervorden eventually mentioned that he had received the brains of hundreds of victims of the “euthanasia” killings for his research. He would soon come to regret his frankness, although, as the Nuremberg Medical Trial

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would soon demonstrate, there were few legal avenues to penalize the appropriation without consent of body parts for research.¹

It was not before the late 1980s, at the time of a renewed interest in the Holocaust and other National Socialist crimes, that the wartime and postwar use of victims' body parts became generally regarded as unacceptable within the Austrian and German scientific community. A first sign that attitudes were changing in this regard was the Max Planck Society's hasty mass burial of specimens at the Munich Waldfriedhof in 1990.² The burial of brain specimens from hundreds of children killed at the Viennese "euthanasia" facility Am Spiegelgrund in 2002 is another example. Today, scientific institutions incur considerable reputational risks if they fail to act on such discoveries in their collections. An open question, however, is how to deal with the scientific results obtained from such research now deemed unethical, as evidenced by the ongoing debate about Eduard Pernkopf's atlas of anatomy.

The aim of this paper, based on a brief recapitulation of the principal issues and their historical context, is to reconstruct the historical development of the present bioethical positions on research on tissues and data derived from victims of National Socialist crimes. While an ample historiography exists on the instances of abusive research to be dealt with in this context, an approach to the question from the standpoint of a history of bioethics has so far been neglected. Two of the authors (PW, HC) are currently co-directing (with Gerrit Hohendorf) the research project "Brain research at institutions of the Kaiser Wilhelm Society in the context of Nazi injustices," financed by the Max Planck Society (Max-Planck-Gesellschaft), which deals with one of the paramount examples of the issues discussed here.³

In this paper, we combine archival research performed within this and previous projects with a review of relevant normative bioethics texts (Nuremberg Code, Declaration of Helsinki, Belmont Report, Oviedo Convention, Vienna Protocol, among others) and the literature on the history and ethics of anatomy and neuropathology in Germany during and after National Socialism. While the influence of the concentration camp experiments on the development of regulations on human subjects research is clearly visible beginning with the immediate postwar period, the collection and scientific use of human tissue from victims of Nazi mass crimes was only episodically discussed before becoming a more broadly debated issue (mainly in Germany) in the late 1980s. These early discussions took on the form of politicized "affairs" around specific institutions such

as universities or the Max Planck Society and were centered more around perceived and real failures of these institutions in coming to terms with their Nazi past, and less around questions of bioethics proper.

Against this background, the 2000 version of the Declaration of Helsinki, which for the first time in the history of the document refers explicitly to "identifiable human material," marks an important turning point. Thus it is only relatively recently that the use of human material without consent has been officially acknowledged as unethical. This assessment mostly rests on concerns for the protection of posthumous rights of the individual, as becomes clear from the equation of "human material" and "data" in the declaration. We argue that this approach is too limited, and that current bioethical norms—as codified in this and other documents quoted below—were neither intended nor are they adequate to evaluate the use of data and tissues originating from extraordinary historical circumstances such as the National Socialist and other state-sponsored crimes. For an appropriate evaluation, we argue, it is necessary to take into account not only individual rights and interests, but to also address the moral harm that the unquestioned use of victims' tissues (and the data derived from them) can have on the scientific and medical culture and on society at large. These questions are of considerable practical relevance today because many museums, research institutions and libraries still hold specimens and/or data derived from state-sponsored violence not only from the National Socialist period, but also from colonial and other contexts, and need a solid basis to decide how to deal with these issues. Policy makers with responsibilities in these areas also need guidance.

While nobody advocates to "burn books" today, there is a range of options that need to be considered, particularly the question of disclosure to potential readers or users of materials. Institutions also need to consider sponsoring or performing research into the origins of their collections, for example to document their history, identify victims and issue appropriate declarations or apologies.

2 | BODY PROCUREMENT FOR ANATOMY DURING THE THIRD REICH

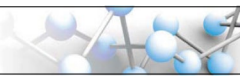
For a long time, and well into the second half of the 20th century, anatomists mainly relied on bodies from the executed and the poor.⁴ This tradition helps to explain why anatomical institutes in Nazi Germany used the opportunity offered to them by a decree of the Reich Ministry of Science, Education and Culture from February 1939 strengthening their claim on bodies of persons put to death at execution sites nearby. In the course of the war, this meant a rapidly escalating number of corpses available for teaching and research, most of whom bore the unmistakable signs of a violent death by decapitation, hanging or shooting. In Innsbruck, for example, the anatomical institute received decapitated

¹Weindling, P. (in press). Prosecuting 'Euthanasia' at the Nuremberg International Military Tribunal and Medical Trials. In J. Osterloh & E. Schulte (Eds.), *Von der 'Euthanasie' zum Holocaust*. In Hallervorden's case the question is complicated by the fact that he initiated the collaboration with the murderers and might even have been present when some of his research subjects were killed.

²In the meantime, there have been repeated discoveries of still existing human remains in MPG collections, see e.g. Wässle, H. (2017). A collection of brain sections from "euthanasia" victims: The series H of Julius Hallervorden. *Endeavour*, 41(4), 166–175.

³Paul Weindling has been engaged with the history of the Max Planck Society since the late 1980s and was also a member of the organization's presidential commission investigating its wartime history in the early 2000s. Herwig Czech has been involved with the history of the Vienna Spiegelgrund "child euthanasia" facility and the scientific exploitation of its victims since the late 1990s. The paper partly draws on their earlier results and publications, which are quoted below.

⁴Hildebrandt, S. (2016). *The anatomy of murder. Ethical transgressions and anatomical science during the Third Reich*. Berghahn, p. 31.



prisoners, as well as bodies of Jews who had committed suicide in order to escape deportation, and the emaciated bodies of Soviet prisoners of war. The body of a Polish forced laborer who had been hanged was delivered to the institute on the insistence of its director.⁵

In Vienna, a commission appointed by the university reported in 1998 that the Anatomical Institute had acquired approximately 4,000 unclaimed bodies from public hospitals—some of which had likely been victims of “euthanasia”—and at least 1,377 bodies of executed individuals, most of them victims of the Nazi judicial system, including many members of the anti-Nazi resistance. Their bodies were used in the dissection course, but also for some of the specimens pictured in Eduard Pernkopf’s acclaimed atlas of anatomy.⁶ In Berlin, Charité anatomist Hermann Stieve used bodies of women who had been executed at Plötzensee prison for his research on the effects of stress on the female reproductive system.⁷ In Leipzig and Munich, Max Clara conducted experiments on the prisoners he would later dissect by administering doses of vitamin C before their execution.⁸ The most extreme example in the field of anatomy is August Hirt of the Reichsuniversität Strassburg, for whose project of a “Jewish skeleton collection” 86 people were selected in Auschwitz to be killed.⁹

3 | THE USE OF “EUTHANASIA” VICTIMS IN NEUROPATHOLOGY

Research in neuropathology also depended on access to the bodies of recently deceased individuals. Removing the brain (and sometimes other organs) during an autopsy is less invasive than complete dissection, therefore in principle the procurement of research material in this field had to overcome fewer obstacles in terms of cultural norms and resistance from relatives. At the same time, neuropathologists, as opposed to anatomists, need tissues from individuals with specific, scientifically relevant pathologies. Thus the killing of hundreds of thousands of psychiatric patients during the Third Reich was seen as a “unique opportunity” by researchers in this field.

The neuropathologist Berthold Ostertag dissected the bodies of children killed at the child “euthanasia” clinic at Wiesengrund in Berlin-Wittenau; his work on the victims’ brains was funded by the German Research Foundation (DFG).¹⁰ The 1949 edition of his manual on brain dissection (first published in 1944) contains specific instructions regarding the dissection of children’s bodies, including neonates. He mentions the necessity to keep the visible damage to the bodies to a minimum in order to facilitate relatives’ consent to an autopsy; a remark that glosses over the circumstances under which he obtained much of his research “material” during the war.¹¹ In the context of the “child euthanasia” program, research on the children before and after their deaths was actively supported to further the eugenic goal of eradicating mental disabilities. Carl Schneider, chair of psychiatry in Heidelberg, examined the brains of children who had been selected and killed for this purpose.¹² At Vienna Spiegelgrund, the largest “child euthanasia” facility, brains of hundreds of children were preserved and used for research during and until long after the war.¹³ In this context, the Kaiser Wilhelm Institutes of Psychiatry (Munich) and of Brain Research (Berlin) played a special role insofar as they acquired brains from multiple sources all over Germany and even from occupied territories such as Poland. A considerable proportion of the thousands of brains received stemmed from victims of “euthanasia” and other crimes.¹⁴ The Kaiser Wilhelm Institute of Anthropology, Human Genetics and Eugenics in Berlin under its director Otmar von Verschuer received blood, eyes and other samples from Josef Mengele in Auschwitz.¹⁵

4 | NORMS AND ATTITUDES DURING THE FIRST HALF OF THE 20TH CENTURY

Julius Hallervorden’s insouciance when he revealed (as quoted above) the origin of parts of his brain collection to Leo Alexander indicates that either he was not aware of any wrongdoing on his side, or at least that he expected a fellow neurologist to understand that he had prioritized obtaining research material above all other considerations. At the same time, in scholarly publications, Hallervorden and other researchers in a similar position such as Ernst Illing in

⁵Czech, H., & Brenner, E. (2019). Nazi victims on the dissection table—the Anatomical Institute in Innsbruck. *Annals of Anatomy*, 226, 84–95. <https://doi.org/10.1016/j.aanat.2019.03.007>

⁶Akademischer Senat der Univ. Wien (Ed.) (1998). *Untersuchungen zur Anatomischen Wissenschaft in Wien 1938-1945*. Senatsprojekt der Universität Wien; Pernkopf, E. (1937–1960). *Topographische Anatomie des Menschen* (Vols. 1–4). Urban und Schwarzenberg.

⁷Hildebrandt, S. (2013). The women on Stieve’s list: Victims of National Socialism whose bodies were used for anatomical research. *Clinical Anatomy*, 26, 3–21.

⁸Schütz, M., Schochow, M., Waschke, J., Marckmann, G., & Steger, F. (2015). Anatomische Vitamin C-Forschung im Nationalsozialismus und in der Nachkriegszeit: Max Claras Humanexperimente an der Anatomischen Anstalt München. *Medizinhistorisches Journal*, 50, 330–355.

⁹Toledano, R. (2017). August Hirt and the supply of corpses at the Anatomical Institute of the Reichsuniversität Strassburg (1941–44). In P. Weindling (Ed.), *From clinic to concentration camp. Reassessing Nazi medical and racial research, 1933-1945* (pp. 100–120). Routledge.

¹⁰Peiffer, J. (1997). *Hirnforschung im Zwielficht. Beispiele verführbarer Wissenschaft aus der Zeit des Nationalsozialismus. Julius Hallervorden/H. J. Scherer/Berthold Ostertag*. Husum, pp. 89–91.

¹¹Ostertag, B. (1949). *Die Sektion des Gehirns und Rückenmarks und ihrer Hüllen*. Springer-Verlag, p. 8.

¹²Rotzoll, M., & Hohendorf, G. (2017). Murdering the sick in the name of progress? The Heidelberg psychiatrist Carl Schneider as a brain researcher and “therapeutic idealist”. In Weindling, op. cit. note 9, pp. 163–182.

¹³Czech, H. (2014). Abusive medical practices on ‘euthanasia’ victims in Austria during and after World War II. In S. Rubinfeld & S. Benedict (Eds.), *Human subjects research after the Holocaust* (pp. 109–125). Springer.

¹⁴There are numerous publications on the subject; see for example Peiffer, J. (1999). Assessing neuropathological research carried out on victims of the “euthanasia” programme. *Medizinhistorisches Journal*, 34, 339–356.

¹⁵Weindling, P. J. (2000). “Tales from Nuremberg”. The Kaiser Wilhelm Institute for Anthropology and allied medical war crimes policy. In D. Kaufmann (Ed.), *Geschichte der Kaiser-Wilhelm-Gesellschaft im Nationalsozialismus. Bestandsaufnahme und Perspektiven der Forschung* (pp. 621–638). Wallstein Verlag.

5 | THE NUREMBERG MEDICAL TRIAL AND THE NUREMBERG CODE

Vienna both during and after the war veiled the provenance of their research material in Nazi crimes, which indicates that they were aware that what they were doing was problematic—if only because they did not want to risk public criticism or exposure.¹⁶ Anatomists were sometimes more forthcoming, at least until the end of the war, in indicating that their research was based on bodies from executed persons, probably because there was an official basis for the practice in form of a series of circulars from the Reich Ministries of Justice and of Education, and a long history of precedents.¹⁷

In terms of regulating research on human subjects, Germany was a pioneer in introducing a requirement for what amounted to informed consent as early as 1900 (in Prussia). The “Guidelines for new therapies and human experimentation” from 1931 went in the same direction.¹⁸ Neither of the two documents, however, refers to human tissues. The prominent Nazi physician Rudolf Ramm, in his authoritative book on National Socialist medical ethics, does not discuss the issue of research on human subjects, but he does mention the Hippocratic Oath as a foundation of medical ethics several times.¹⁹ The concentration camp experiments and other medical atrocities in Nazi Germany were perpetrated not in the absence of, but despite existing regulations, accepted principles and laws.

Overall, compared to research on living human subjects, the issue of posthumously obtained specimens rarely appeared in public debates. A notable exception was the Berlin physician Albert Moll in his comprehensive 1902 volume on medical ethics. He argued that no autopsy (and no retention of human tissue for anatomical or pathological collections) should occur without explicit consent from the deceased or their relatives, criticizing those among his colleagues who performed autopsies without consent or after obtaining it by deceptive means.²⁰ This remained a minority position until long after the war.²¹

On February 7, 1946, the four-power International Military Tribunal heard of psychiatric research on brains from “killing centers for the insane” by the Kaiser Wilhelm Institute for Brain Research neuropathologist, Julius Hallervorden.²² This raised what subsequently became a long-neglected aspect of “euthanasia,” the scientific retention and use of brain specimens and neural tissue. Evidence for this had been uncovered by Leo Alexander, an emigré neurologist from Vienna, who had also investigated the low pressure and freezing experiments at Dachau concentration camp. Alexander was then recalled as expert witness for the prosecution for the US-administered Nuremberg Medical Trial, spending several months at Nuremberg. Hallervorden steadfastly insisted that he only received victims’ brains, rather than having actively selected children with diseases of neuropathological interest to be killed: “... those brains offered wonderful material, of mentally poor, deformities and early children’s diseases. Of course I accepted the brains. It really wasn’t my concern where they came from and how they were brought to me.”²³

The Nuremberg Code pronounced by the judges on August 18, 1947 dealt with living research subjects. It was silent about the use of tissues for research. In fact, Hallervorden had informed Alexander how he had obtained approximately 200 brains of Polish Jews. Hallervorden and the Munich neuropathologist Willibald Scholz used large numbers of brains from Allied prisoners of war and executed persons: for them what mattered was the quality of the specimen and the specific brain lesion. Allied investigators did trace the origins of bodies from prisoners of war, but apart from relocating them to military cemeteries, that was the end of the matter. Hallervorden was fortunate that the Allied prosecutors, because of legal constraints for what constituted a war crime, prioritized clear cut murder for trial.²⁴ Research practices were considered as potential crimes only when they involved experiments on involuntary subjects, or when individuals were killed for scientific purposes.²⁵ The ‘Nuremberg Code,’ which resulted from the trial, did not contain any reference to post-mortem research. By the same token, investigations immediately after the war into the anatomical use of Nazi victims’ bodies, for example in Innsbruck or Graz, resulted in public scandal, but not in legal sanctions. Unless they pertained to Allied citizens, human specimens collected during the Nazi period remained in scientific collections and continued to be used for research, primarily in fields such as anatomy and neuropathology.²⁶

¹⁶See, for example, Ernst Illing’s 1943 publication *Pathologisch-anatomisch kontrollierte Enzephalographien bei tuberöser Sklerose*. *Zeitschrift für die gesamte Neurologie und Psychiatrie*, 178, 160–171, for which he used the brains of victims of “child euthanasia” in Vienna (and probably Görden), or Julius Hallervorden’s 1959 paper *Über die Hamartome (Ganglioneurome) des Kleinhirns*. *Deutsche Zeitschrift für Nervenheilkunde*, 179, 531–563, for which he used the brain of a victim of “T4.” On the scientific exploitation of the “Spiegelgrund” victims, see Czech, H. (2002). *Forschen ohne Skrupel. Die wissenschaftliche Verwertung von Opfern der NS-Psychiatriemorde in Wien*. In E. Gabriel & W. Neugebauer (Eds.), *Von der Zwangssterilisierung zur Ermordung. Zur Geschichte der NS-Euthanasie in Wien Teil II* (pp. 143–163). Böhlau.

¹⁷Hildebrandt, op. cit. note 4, p. 56. Max Clara, to give just one example, mentioned in a 1937 publication that he had used at least eight executed persons: Clara, M. (1937). *Über das Vorkommen von Atraktosomen in den Schleimzellen der menschlichen Drüsen*. *Zeitschrift für Zellforschung und Mikroskopische Anatomie*, 25, 655–693.

¹⁸Vollmann, J., & Winau, R. (1996). Informed consent in human experimentation before the Nuremberg code. *British Medical Journal*, 313, 1445–1449; Roelcke, V. (2017). The use and abuse of medical research ethics: The German *Richtlinien/guidelines* for human subject research as an instrument for the protection of research subjects - and of medical science, ca. 1931–61/64. In Weindling, op. cit. note 9, pp. 33–56.

¹⁹Ramm, R. (1942). *Ärztliche Rechts- und Standeskunde. Der Arzt als Gesundheitserzieher*. Walter de Gruyter & Co. On this book, see Bruns, F. (2009). *Medizinethik im Nationalsozialismus. Entwicklungen und Protagonisten in Berlin (1939–1945)*. Franz Steiner Verlag.

²⁰Moll, A. (1902). *Ärztliche Ethik. Die Pflichten des Arztes in allen Beziehungen seiner Tätigkeit*. Verlag von Ferdinand Enke, pp. 495–504.

²¹An entry from 1965 in the specimen registry book of the Neurological Clinic of Frankfurt University contains the following note, referring to an 8-month-old girl: “During phone calls etc. always remember that the child’s mother must not find out about the autopsy.” *Universitätsarchiv Frankfurt/Main, Edinger-Institut, Eingangsbuch*. The researchers at the time might have told themselves that it was preferable that the bereaved mother would not be burdened with such decisions or even knowledge.

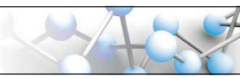
²²Weindling, op. cit. note 1.

²³Weindling, P. (2004). *Nazi medicine and the Nuremberg Trials: From medical war crimes to informed consent*. Palgrave-Macmillan, pp. 67–79, 82–89, 96, 218, 307.

²⁴Mitscherlich, A., & Mielke, F. (1949). *Doctors of infamy. The story of the Nazi medical crimes*, diagram between pages 86 and 87. Henry Schuman.

²⁵Weindling, op. cit. note 23.

²⁶Czech, H. (2015). *Von der Richtstätte auf den Seziertisch. Zur anatomischen Verwertung von NS-Opfern in Wien, Innsbruck und Graz. Feindbilder. Jahrbuch des Dokumentationsarchivs des österreichischen Widerstandes*, 2015, 141–190; Czech & Brenner, op. cit. note 5.



6 | DEBATES AND ATTITUDES DURING THE LONG POSTWAR PERIOD

The Nuremberg Code represents a milestone on the way towards the development of internationally accepted norms on “medical experiments on human beings” or “human experimentation” (the language used in the Code²⁷), but it did not contain any references to the scientific use of human body parts obtained from victims of Nazi crimes. As long as they had not actively participated in killing their research subjects, scientists who had worked with such “material” had relatively little to fear from war crimes prosecutions, as the case of Julius Hallervorden shows. In Innsbruck, the anatomists responsible were threatened with prosecution only in the case of Allied citizens, as the appropriation of these bodies could in principle constitute a war crime, but such cases were rare.²⁸

As a direct reaction to the medical crimes committed during the Nazi period, in June 1947 the West German Medical Chambers passed the Vow of Bad Nauheim (Bad Nauheimer Gelöbnis). With regards to human experimentation, it was more restrictive than the Nuremberg Code (which it preceded by 2 months), banning any medical intervention, therapeutic or non-therapeutic, with or without consent, which entailed risk of harm to “body, soul or life.” Another provision, banning interventions destroying the capacity to reproduce, was clearly a response to the mass sterilizations implemented by the Nazi regime. There is no indication, however, that the use of human specimens obtained from Nazi victims was of any concern to the authors of the declaration.²⁹

With the public interest in Nazi crimes waning after the immediate postwar period, researchers in Austria and Germany were free to continue scientific work on specimens collected during the Nazi period. In Vienna, Heinrich Gross, who had been involved in the killing of hundreds of children at the Spiegelgrund “euthanasia” facility, published in 1952 the first of a long series of papers that were based on his “unique collection” of brains removed from his victims.³⁰ Although the provenance of Gross’s specimens was never publicly questioned, the influential psychiatrist Hans Hoff, himself a victim of anti-Jewish persecution, quietly thwarted the former Spiegelgrund doctor’s ambitions towards a university career.³¹ In Germany, a discreet controversy at the University of Würzburg about the anatomist and medical historian Robert Herrlinger allows some insight into conflicting attitudes regarding ethics in anatomy in the 1950s. Some members of the faculty protested against Herrlinger’s

appointment as professor of history of medicine, because his habilitation was based on research on spleens fresh from the execution chamber at Poznan in occupied Poland. They contended that this work proved a lack of professional ethics and personal integrity on his part. But even some of Herrlinger’s critics accepted the use of bodies from executions, provided that the sentences had been just and legal. Supported by a majority, the appointment went through.³²

In 1953, Julius Hallervorden’s use of brains from “euthanasia” victims became the subject of a fierce controversy in the neuroscience community when the Dutch delegation to the Fifth International Neurological Congress in Lisbon threatened to boycott the meeting until Hallervorden withdrew his participation.³³ Overall, postwar debates did not fundamentally question the permissibility of the use of human remains without consent; rather, they focused on issues of individual responsibility and personal integrity of the researchers who came under scrutiny for various reasons. As a consequence, it was left to the implicated individuals and their respective institutions to try to weather the storms and to retain the specimens in question as long as their scientific value was considered to outweigh the possible risk associated with holding on to them.

7 | THE MAX PLANCK SOCIETY’S PERSISTENT PROBLEMS WITH THE PAST

In 1989/1990 an intense debate erupted in the Federal Republic of Germany over the status of anatomical specimens from the period of National Socialism.³⁴ Pressure was brought on the German universities and research institutes to remove these specimens from their collections. The solution was deemed to be a rapid burial of all human tissue whose provenance was doubtful, with the aim to achieve closure on this issue by a swift “cleansing” of collections. The result was removal of several thousand specimens. However, identification of victims, the circumstances of their death and the ensuing utilization of their bodies for research and teaching were left unresolved amidst the heated debates at the time. Since the early 1980s there had been increasing concern with German medicine during National Socialism, and with continuities from this problematic past. At Tübingen University a critical group of students researched the “racialising” of medicine during National Socialism.³⁵ In 1983 Götz Aly was researching towards a habilitation in Political Science at the Free University Berlin; he applied for access to the collection of

²⁷Quoted in Beauchamp, T. L., & Childress, J. F. (1983). *Principles of biomedical ethics* (2nd ed.). Oxford University Press, p. 338.

²⁸Czech & Brenner, op cit. note 5.

²⁹Dörner, K. (2003). *Der gute Arzt. Lehrbuch der ärztlichen Grundhaltung*. Schattauer, pp. 243–244; “Bad Nauheimer Gelöbnis”. (1947). *Südwestdeutsches Ärzteblatt*, 2 (7/9). The Vow was quickly superseded by the World Medical Association’s less specific and restrictive *Declaration of Geneva* adopted in September 1948.

³⁰Gross, H. (1952). Zur Morphologie des Schädels bei der Acrocephalosyndaktylie. *Morphologisches Jahrbuch*, 92, 350–372.

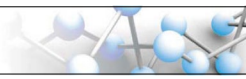
³¹Hubenstorff, M. (2002). Tote und/oder lebendige Wissenschaft. Die intellektuellen Netzwerke der NS-Patientenmordaktion in Österreich. In E. Gabriel & W. Neugebauer (Eds.), *Von der Zwangssterilisierung zur Ermordung. Zur Geschichte der NS-Euthanasie in Wien Teil II* (pp. 237–420). Böhlau, p. 371.

³²Hildebrandt, S. (2013). The case of Robert Herrlinger: A unique postwar controversy on the ethics of the anatomical use of bodies of the executed during National Socialism. *Annals of Anatomy*, 195, 11–24. <http://dx.doi.org/10.1016/j.aanat.2012.07.006>

³³Topp, S., & Peiffer, J. (2007). Das MPI für Hirnforschung in Gießen: Institutskrise nach 1945, Hypothek der NS-„Euthanasie“ und das Schweigen der Fakultät. In S. Oehler-Klein (Ed.), *Die Medizinische Fakultät der Universität Gießen im Nationalsozialismus und in der Nachkriegszeit* (pp. 539–607). Steiner.

³⁴Weindling, P. (2012). “Cleansing” anatomical collections: The politics of removing specimens from German anatomical and medical collections 1988–92. *Annals of Anatomy*, 194, 237–242.

³⁵Wuttke-Groneberg, W. (Ed.) (1980). *Medizin im Nationalsozialismus. Ein Arbeitsbuch*. Schwäbische Verlagsgesellschaft; Projektgruppe “Volk und Gesundheit”. (1982). *Volk und Gesundheit. Heilen und Vernichten im Nationalsozialismus*. Tübinger Vereinigung für Volkskunde.



anatomical brain slides at the Edinger Neurological Institute in Frankfurt am Main. Aly's application triggered a long running discussion as to the status of the Hallervorden collection—whether it was a historical collection that might be considered archival material, or whether it fell under medical confidentiality restrictions.³⁶ Once Aly's permission to view the Hallervorden collection and associated archives was granted, he wrote a detailed report to the Max Planck Society demonstrating that the Hallervorden collection included brains of "euthanasia" victims.³⁷ He identified a group of 33 children, all killed on October 28, 1940. His verdict was that the brain sections should be destroyed "out of respect to victims of Nazism."³⁸

Medical students agitated on the issue of the retention of body parts of victims of Nazi crimes being used for anatomical teaching and research. The University of Tübingen was a crystallization point.³⁹ It rapidly issued a public apology on January 11, 1989, and then convened a full commission on the matter. The Commission examined the contents of collections on a university-wide basis, and fully investigated the provenance of each specimen, taking account of earlier Allied postwar investigations, the definition of a National Socialist victim, and associated ethical questions.⁴⁰ Removal was accompanied by identification and full disclosure as to provenance. The Tübingen model set a standard of best practice. The MPG partially adapted the model by opting for complete removal of all dubious specimens from the Nazi period, but without thorough documentation. This led to some disagreements, as not all scientists wished to relinquish slide collections when a Nazi provenance was uncertain.⁴¹

The Canadian physician William Seidelman argued forthrightly as regards the anatomical victims: "There must be public documentation of who these people once were, how they died and how institutions representing science, medicine and higher education used their remains for almost half a century after the defeat of the Nazi regime."⁴² In September 1989 Seidelman and Caplan issued "A call for an international commemoration."⁴³ This sought to in-

ternationalize the understanding of any burial, and to construe them in the context of bioethics. The Frankfurt anatomist Jürgen Winckler requested that the specimens be retained as both a memorial and a warning to scientists.⁴⁴ German universities considered that the reactions in Israel and North America were exaggerated, but they wished to appease their critics so that current research collaborations would not be disrupted. The majority of German universities and research institutes followed the "Tübingen model" in terms of disposal of specimens from Nazi victims and of doubtful provenance, but left out their identification. Coming under public, student and international scientific pressure, the solution was that of rapid disposal of body parts. Collective burial in a grave without victims' names appeared to offer closure. The German Anatomical Society took no position on the issue. No thought was given to German anatomical institutes outside of German postwar borders, such as Vienna, Graz, Innsbruck, Strassburg, Posen, or Königsberg.

In Tübingen, which was not exceptional in this regard, voluntary body donation to the institute of anatomy was only introduced in the 1960s. In 1992, Ulrich Drews, head of anatomy in Tübingen, formulated the main ethical problem in anatomy as the tension between the perspective of the relatives, for whom the corpse still represented the person of the recently deceased, and that of the scientists, to whom the body was mere dead matter. In his view, this dilemma could be resolved by the conscious decision for body donation, as well as the guarantee of absolute anonymity of the body, especially in view of material retained in the form of microscopic slides or other specimens.⁴⁵ Jürgen Peiffer, who until his death in 2006 dedicated many years to investigating the complicity of German brain research with Nazi medical crimes, laid out his view in 1992 of where to draw the line of permissibility regarding the scientific use of brains from Nazi victims. Apart from the active participation in selections or killings, Peiffer also judged the mere "cooperation" with the murderers (e.g., by seeking to obtain specimens from the killed) morally reprehensible; however, he was ready to muster "understanding" for the "obsessive scientific interest" a fellow scientist might have shown in an "interesting" brain specimen.⁴⁶

8 | BIOETHICS AND THE HOLOCAUST

Despite efforts during the 1980s to draw conclusions from medicine's role in Nazi crimes for the nascent discipline of bioethics, such

³⁶Aly, G. (1984). 'Einsichtnahme', 4.7.1984. In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung.

³⁷Aly, G. (1984). 'Bericht'cor. In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung.

³⁸Aly, G. to MPG President Heinz Staab (1984, September 17). Letter and report. In: MPG II. Abt., Rep. 1F, AZ A II 7a Besondere Aufgaben Hirnschnittsammlung E-II-1a 1963; Aly, G. (1985). Der saubere und der schmutzige Fortschritt. In G. Aly, K. F. Masuhr, & M. Lehmann (Eds.), *Reform und Gewissen. "Euthanasie" im Dienst des Fortschritts* (pp. 9–78), p. 78. Rotbuch-Verlag.

³⁹Schönhagen, B. (1987). *Das Gräberfeld X. Eine Dokumentation über NS Opfer auf dem Tübinger Stadtfriedhof*. Kulturamt Tübingen, p. 119.

⁴⁰Abschlussbericht der Commission zur Überprüfung der Präparatesammlungen in den medizinischen Einrichtungen der Universität Tübingen im Hinblick auf Opfer des Nationalsozialismus. (1989, 13 July). In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung.

⁴¹Henning, E. (1989). Zwischenbericht. Stand der Aussonderungen von Hirnschnitten 6 Sept 1989. In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung; MPG. (1989). 2. Entwurf Presseerklärung 3.5.1989. In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung.

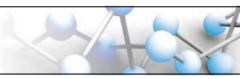
⁴²Seidelman, W. E. (1989). Legacy of the Nazis. *Nature*, 341, 180.

⁴³Seidelman, W., & Caplan, A. (1989). A call for an international commemoration. In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung; Seidelman, W. E. (1989). In memoriam. Medicine's confrontation with evil. *Hasting's Center Report*, 19, 5–6; W. Seidelman fax to Edmund Marsch, Generalverwaltung MPG 19 Sept 1989. In: MPG II. Abt., Rep. 1F, Az A-II-7a Besondere Aufgaben Hirnschnittsammlung.

⁴⁴Caro (1990). *Frankfurter Allgemeine Zeitung*.

⁴⁵Drews, U. (1992). Die Zeit des Nationalsozialismus am Anatomischen Institut in Tübingen. Unbeantwortete ethische Fragen damals und heute. In J. Peiffer (Ed.), *Menschenverachtung und Opportunismus. Zur Medizin im Dritten Reich* (pp. 93–107). Attempo Verlag.

⁴⁶Peiffer, J. (1992). Damals und Heute. Ethische Konfliktsituationen des wissenschaftliche arbeitenden Arztes. In Peiffer, op. cit. note 45 (pp. 213–249), p. 223; Weindling, P. (2020). Hiding in plain view: Burial and commemoration of children's specimens from Wittenau burial and commemoration in the "Gräberfeld/ Cemetery X" Tübingen, 4 and 8 July 1990. *Medizinhistorisches Journal*, Online first, 1–17. <https://doi.org/10.25162/mhj-2020-0016>



deliberations were slow to enter the bioethics canon and until very recently, the issue of human specimens derived from victims of Nazi crimes was barely considered in this context. In their authoritative *Principles of biomedical ethics*, first published in 1979, Tom Beauchamp and James Childress aimed to provide a systematic analysis of the moral principles that should guide biomedicine, specifically medical practice, healthcare delivery, research, and public policy.⁴⁷ The book's eight editions cover four decades and reflect developments in bioethics both in the US and internationally. Throughout this period, the concept of posthumous interests of patients in the context of post-mortem research on human material did not enter the canon of bioethical questions as reflected in the book.⁴⁸ In the 2019 edition, the closest issue discussed is that of organ donation for transplantation.⁴⁹

A defining moment of Nazi medicine entering biomedical discourse was a conference on Bioethics and the Holocaust organized by Arthur Caplan and held in May 1989 at the University of Minnesota. Significantly, it was not triggered by the recent scandals around specimens from Nazi victims in Germany, but by the question raised by a US researcher whether it was legitimate to use data from the lethal hypothermia experiments on prisoners at Dachau concentration camp. In the conference proceedings, published 3 years later, William Seidelman's chapter was the only one to explicitly refer to the question of specimens.⁵⁰ In Seidelman's unequivocal view, the anatomical specimens found at a number of German research institutions

symbolize the ignobility of medicine [...]. The utility of science seems to have taken precedence over human decency. Thus, the German university as a symbol of excellence has been tainted by both its promotion of racism during the Hitler period and its continuous exploitation of evil, over four decades after the defeat of the Hitler regime and the Nuremberg War Crimes Tribunal.

As a consequence, he called on the profession to recognize and acknowledge evil and pay tribute to its victims.⁵¹ Equating the use of specimens (or data) from "Nazi science" with a continuing "exploitation of evil" also aptly summarizes a central group of arguments brought forward in the issue of the Dachau data. There was no consensus regarding the validity, usefulness and soundness of the science, but most

contributors agreed that the debate in terms of ethics was moot unless one was willing to concede at least some validity to some of the results. The ethical arguments (as opposed to the scientific ones) against the use of the data focused on the post hoc legitimization or recognition of the Nazi scientists and their crimes, the possible corrupting influence on contemporary scientists experimenting on human subjects, the complicity with the crimes that would inevitably be established by quoting the results, and the continuing harm and degradation inflicted on the victims' personhood. The arguments in favor of the use of the data postulated the permissibility (if not an obligation) to use them if they could be of any help in saving lives, since withholding or suppressing such information would represent a greater evil than using them. A variant of this argument is not just to accept the use as a "lesser evil," but to postulate some kind of validation of the victims' suffering, so that they would not have "died in vain"—also expressed in the poignant image of "salvaging something from the ashes." A more pragmatic approach transpired in declaring knowledge as separate from the context of its inception, and in rejecting the "burning of books," based on the principle that it was not possible to "un-know" scientific facts or data, at least not without compromising fundamental principles of modern science.⁵²

The issues of data derived from concentration camp experiments and that of research on specimens from victims of "euthanasia" and other crimes are closely related; the current version of the Declaration of Helsinki, to give one example, in the same sentence refers to "research on identifiable human material" and "identifiable data."⁵³ However, there is an important difference: any posthumous harm that can potentially be inflicted on the victim's personhood in this context is greater when actual bodily tissue is involved rather than abstract data. And yet, William Seidelman's chapter aside, none of the other authors of the conference volume raised the issue of keeping specimens from victims of Nazi "euthanasia," let alone that of quoting the works based on them, or what should be done to identify and honor the victims.⁵⁴ This issue acquired unexpected urgency shortly after, with the discovery that not only fields like hypothermia research relied on the fruits of Nazi science, but also an anatomy textbook that was widely used in teaching and training.

⁴⁷Beauchamp & Childress, op. cit. note 27, pp. ix–x.

⁴⁸Ibid; Beauchamp, T. L., & Childress, J. F. (1989). *Principles of biomedical ethics* (3rd ed.). Oxford University Press; Beauchamp, T. L., & Childress, J. F. (2019). *Principles of biomedical ethics* (8th ed.). Oxford University Press, pp. 111, 230. The various editions contain a number of references to National Socialism and the Nuremberg Trials, such as a reprint of the Nuremberg Code (Beauchamp & Childress, op. cit. note 27, pp. 338–339, in an appendix dropped in later editions) and a discussion of the "Nazi analogy" as an argument against mercy killing (a version of which the authors accept under the premise of "better safe than sorry").

⁴⁹Beauchamp & Childress 1989, op. cit. note 48, p. 142.

⁵⁰Seidelman, W. E. (1992). "Medspeak" for murder. The Nazi experience and the culture of medicine. In A. L. Caplan (Ed.), *When medicine went mad. Bioethics and the Holocaust* (pp. 271–279). Humana Press; Müller-Hill, B. (1992). Eugenics. The science and religion of the Nazis. In Ibid. (pp. 43–52).

⁵¹Seidelman, op. cit. note 50, p. 275.

⁵²Caplan, A. L. (1992). How did medicine go so wrong? In Caplan (Ed.), op. cit. note 50 (pp. 53–92); Pozos, R. S. (1992). Scientific inquiry and ethics: The Dachau data. In Ibid: 95–108; Berger, R. L. (1992). Nazi science: Comments on the validation of the Dachau human hypothermia experiments. In Ibid: 109–133; Katz, J., & Pozos, R. S. (1992). The Dachau hypothermia study: An ethical and scientific commentary. In Ibid: 135–139; Freedman, B. (1992). Moral analysis and the use of Nazi experimental results. In Ibid: 141–154; Greene, V. (1992). Can scientists use information derived from the concentration camps. Ancient answers to new questions. In Ibid: 155–170; Katz, J. (1992). Abuse of human beings for the sake of science. In Ibid: 233–270.

⁵³World Medical Association (WMA). (2000). *Declaration of Helsinki. Ethical principles for medical research involving human subjects*. <https://www.wma.net/wp-content/uploads/2018/07/DoH-Oct2000.pdf>

⁵⁴Already in 1989, Seidelman, amid the growing scandal of specimens from the Nazi period in German scientific collections, had criticized the relative silence of the international medical press on the issue, despite the fact that "modern medical ethics arose from the experience of Nazi medicine." He called for a public documentation of the victims (this is quite remarkable) and forms of commemoration that would sensitize the international medical community to the "fallibility of medicine." Seidelman, op. cit. note 42; similarly Seidelman (1989), op. cit. note 43.

9 | THE AUSTRIAN CASE: FROM THE PERNKOPF AFFAIR TO THE SPIEGELGRUND SPECIMENS

Eduard Pernkopf's *Atlas of topographical and applied human anatomy*, whose original German language edition had been published in four volumes between 1937 and 1960, was widely regarded as a masterpiece of anatomical illustration and used in many countries.⁵⁵ When details of Pernkopf's biography as a staunch Nazi supporter and dean of the Vienna Medical Faculty after Austria's annexation to Germany in 1938, together with questions regarding the origin of the corpses used for his work started to appear in the international medical literature from the late 1980s, the stage was set for a renewed discussion on how to deal with scientific results tainted by their Nazi origins.⁵⁶ Compared to the data from the concentration camp experiments, the scientific value in this case was not in question; at the same time, the implications potentially affected a much broader segment of international medicine. The discussion was further complicated by the fact that the historical commission, appointed by the University of Vienna after calls from Israel's national Holocaust Remembrance Center Yad Vashem and researchers like William Seideman and Howard Israel, did not prove beyond any doubt that Pernkopf had indeed used the bodies of Nazi victims for his book—although this is highly likely, given the high numbers of bodies the institute received from public hospitals (including psychiatric institutions where “euthanasia” killings took place) and execution sites.⁵⁷

Arguments for a complete removal of the atlas from circulation (as summarized by Hildebrandt) included references to the “fundamental evil” involved in its creation and the resultant tainting of the work, the principle that nobody should profit from National Socialist crimes, and the view that continued use of the atlas would necessarily imply condoning or legitimating the circumstances in which it was created.⁵⁸ A majority of commentators, however, did not advocate for a ban, but for an informed and transparent further use, with added historical information that would confront the readers with the ethical implications rather than censuring them. The main arguments for continued use were that (as with concentration camp experiments) “good may derive from evil,” for example if the anatomical information helped to improve the outcome of operations, and that the victims would be acknowledged and honored in their suffering if the atlas continued to be used. Another powerful argument was the principled opposition to any form

of censorship or destruction of knowledge, attributed to dictatorial systems such as National Socialism and deemed inappropriate for a democratic society.⁵⁹ Despite such arguments, the publisher of Pernkopf's atlas, initially determined to keep producing the book as long as the provenance of the specimens was not conclusively proven, decided to withdraw the atlas from circulation and to stop allowing the reproduction even of single illustrations. Despite early calls for individual identification and recognition of the victims, the Viennese university commission, citing privacy concerns, did not provide much information on individual victims.⁶⁰ Such a shift of focus towards the individual victims only occurred a few years later, when the collection of brain specimens from the victims of the Vienna Spiegelgrund came under scrutiny, and children were individually named and honored both in publications, a commemorative website and an honorary grave at Vienna's Central Cemetery.⁶¹ Although the specimens derived from the Spiegelgrund victims had served as the basis for numerous publications by Heinrich Gross and other authors in the field, no discussion regarding these results emerged, perhaps because they were deemed too insignificant in comparison to Pernkopf's atlas.⁶²

10 | CONCLUSION - TO USE OR NOT TO USE?

In Germany, a new consensus about the use of specimens from victims of National Socialist injustices emerged after the turn of the century, exemplified by a publication in the German *Ärztblatt* of recommendations on how to deal with human specimens in anatomical and comparable collections, museums and other public spaces. The committee recommended screening of all historical collections, preferably by external experts, and the removal not just of specimens proven to be problematic, but also in all cases where provenance could not be established. Surprisingly, the central criterion of “death in a context of injustice” (Unrechtskontext) was narrowly defined as caused by state violence based on ethnicity (Abstammung, literally genealogy), ideology or religion (Weltanschauung), or for political reasons. Psychiatric patients who fell victim to Nazi “euthanasia” or individuals executed for trifling reasons by the Nazi judicial system seem to fall outside of this definition, although a set of

⁵⁹Ibid.

⁶⁰Akademischer Senat der Univ. Wien (Ed.) (1998). *Untersuchungen zur anatomischen Wissenschaft in Wien 1938-1945. Senatsprojekt der Universität Wien*. Akademischer Senat der Univ. Wien. A collection of original drawings for the Pernkopf atlas has recently been donated by Elsevier to the Medical University of Vienna, see Czech, H., Druml, C., Müller, M., Voegler, M., Beilmann, A., & Fowler, N. (2021). The Medical University of Vienna and the legacy of Pernkopf's anatomical atlas. Part I: Elsevier's donation of the original drawings to the Josephinum. *Annals of Anatomy*, 236. <https://doi.org/10.1016/j.aanat.2021.151693>

⁶¹Häupl, W. (2006). *Die ermordeten Kinder vom Spiegelgrund: Gedenkdokumentation für die Opfer der NS-Kindereuthanasie in Wien*. Böhlau; www.gedenkstaettesteinhof.at; Weindling, P. (2013). From scientific object to commemorated victim: The children of the Spiegelgrund. *History and Philosophy of the Life Sciences*, 35(3), 415–430.

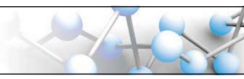
⁶²Neugebauer, W., & Stacher, G. (1999). Nazi child “euthanasia” in Vienna and the scientific exploitation of its victims before and after 1945. *Digestive Diseases*, 17, 279–285; Czech, H. (2002). Forschen ohne Skrupel. Die wissenschaftliche Verwertung von Opfern der NS-Psychiatriemorde in Wien. In E. Gabriel & W. Neugebauer (Eds.), *Von der Zwangssterilisierung zur Ermordung. Zur Geschichte der NS-Euthanasie in Wien Teil II* (pp. 143–163). Böhlau.

⁵⁵Pernkopf, E. (1963/1964). *Atlas of topographical and applied human anatomy. Volume 1: Head and neck, 1963. Volume 2: Thorax, abdomen and extremities, 1964*. W.B. Saunders Co.

⁵⁶Williams, D. (1988). The history of Eduard Pernkopf's *Topographische Anatomie des Menschen*. *Journal of Biocommunication*, 15(2), 12; Ernst, E. (1995). A leading medical school seriously damaged. *Annals of Internal Medicine*, 122, 789–792; Seideman, W. E., & Israel, H. (1996). Nazi origins of an anatomy text: The Pernkopf atlas. *JAMA*, 276(20), 1633.

⁵⁷Angetter, D. (2000). Anatomical science at University of Vienna 1938-45. *The Lancet*, 355, 1454–1457; Hubenstorf, M. (2000). Anatomical science in Vienna, 1938-45. *The Lancet*, 355, 1385–1386.

⁵⁸Hildebrandt, S. (2006). How the Pernkopf controversy facilitated a historical and ethical analysis of the anatomical sciences in Austria and Germany: A recommendation for the continued use of the Pernkopf atlas. *Clinical Anatomy*, 19(2), 91–100.



provisions concerning all specimens from “Nazi victims” (without further definition) do stipulate their removal and burial.⁶³

At the same time, a shift regarding attitudes towards the use of human tissue in research is observable on the international level as well. In the US, National Institutes of Health regulations required explicit consent to use tissue obtained from surgery or autopsy, which led one of the authors of the Belmont Report to address the issue from the angle of a purported “over-protection of human subjects.” Rather, if consent for an autopsy was present, researchers/physicians should be allowed to re-use the material for research without burdening the bereaved with such a decision.⁶⁴ The Belmont Report itself anchors its broader argument in history by referencing the concentration camp experiments, the Nuremberg Code and the Tuskegee syphilis study. Although there is no explicit mention of the issue of research material in the Report itself (only in the Annex), its fundamental ethical postulates and principles allow to weigh in on the matter.⁶⁵

The Declaration of Helsinki, first adopted by the World Medical Association in 1964, and since amended nine times, contained no reference to research on human tissue until the year 2000, when the definition of “medical research involving human subjects” was extended to include “research on identifiable human material or identifiable data.”⁶⁶ Since then, the provisions of the declaration are in principle applicable to posthumous research as well. The version adopted in 2008 required seeking consent “for the collection, analysis, storage and/or reuse of identifiable human material or data.” If obtaining consent would be “impractical,” however, it sufficed to get approval by a research ethics committee.⁶⁷ In the current version (2013) this possibility to bypass consent is limited to “exceptional situations,” without a definition of what exactly this means.⁶⁸ The UNESCO’s Universal Declaration on Bioethics and Human Rights,

adopted in 2005, stipulates that “Scientific research should only be carried out with the prior, free, express and informed consent of the person concerned.” If one understands the term “person concerned” to include the involuntary donors of tissue used as research material, the use of such material would be considered unethical under the declaration, but the validity of the provision in this context is ambiguous and not much stronger than the general principle of respect for “human dignity.”⁶⁹

Recently, the debate around the Pernkopf atlas has been revived by authors who assert that the Pernkopf atlas continues to be indispensable, especially for some neurosurgical operations, and argue for the need for a system of ethically controlled access.⁷⁰ The issue has also been treated from a rabbinical perspective in the so-called Vienna Protocol, which stipulates that according to Jewish law, the use of unethically obtained medical knowledge is permissible (or even necessary), if a human life is at stake.⁷¹ The author has since clarified that this principle needs to be carefully balanced on a case-by-case basis against the countervailing principles of respect for the dead, the interdiction to derive profit from the dead, and others.⁷²

Nearly 75 years after the attempt at Nuremberg to put an end to the misuse of human beings in research, the historical injustices that gave rise to the Nuremberg Doctor’s Trial and the Nuremberg Code, still raise questions to which bioethics as currently codified has only partial answers, especially when it comes to human remains of victims of National Socialism (and other state-sponsored mass crimes) and the scientific data derived from them. The question should not be addressed primarily from the narrow focus of possible harm to the concerned person’s posthumous interests, but one also needs to take into account the potential corrupting influence on the scientific and medical culture at large if we allow fundamental ethical principles to be undermined in the hope of obtaining scientific and medical benefits.

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⁶³Arbeitskreis “Menschliche Präparate in Sammlungen”. (2003). Empfehlungen zum Umgang mit Präparaten aus menschlichem Gewebe in Sammlungen, Museen und öffentlichen Räumen. *Deutsches Ärzteblatt*, 8, 378–383. A pivotal moment regarding German anatomy’s confronting its Nazi past was a symposium held in 2010 in Würzburg, see Seidelman, W. E. (2012). Dissecting the history of anatomy in the Third Reich—1989–2010: A personal account. *Annals of Anatomy*, 194(3), 228–236. <https://doi.org/10.1016/j.aanat.2011.11.013>

⁶⁴Levine, R. J. (1975). The nature and definition of informed consent in various research settings. In The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (Ed.), *The Belmont Report. Ethical principles and guidelines for the protection of human subjects of research. Appendix Volume I* (pp. 1–91). Government Printing Office. pp. 53–54, 75–77.

⁶⁵The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (Ed.). (1979, April). *The Belmont Report. Ethical principles and guidelines for the protection of human subjects of research*. Government Printing Office.

⁶⁶World Medical Association (WMA). (2000, October). *Declaration of Helsinki. Ethical principles for medical research involving human subjects*. <https://www.wma.net/wp-content/uploads/2018/07/DoH-Oct2000.pdf>. The UNESCO 2002 International Ethical Guidelines for Biomedical Research Involving Human Subjects of the Council for International Organizations of Medical Sciences (first adopted in 1982 and amended in 1993) use the nearly identical expression “research with identifiable human tissue or data.”

⁶⁷WMA. (2008, October). *Declaration of Helsinki*. <https://www.wma.net/wp-content/uploads/2018/07/DoH-Oct2008.pdf>

⁶⁸WMA. (2020). *Declaration of Helsinki*. <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects>. The Council of Europe’s Convention on Human Rights and Biomedicine (Oviedo Convention) does not contain any provisions on posthumous research; according to article 22, body parts removed “in the course of an intervention” can only be used if consent is obtained (<https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/164>). Austria and Germany, along with a number of other countries, have not signed the convention.

⁶⁹UNESCO, Universal Declaration on Bioethics and Human Rights, adopted by the 33rd session of the General Conference of UNESCO on 2005, October 19. <https://unesdoc.unesco.org/ark:/48223/pf0000146180>. Accessed 2020, October 25.

⁷⁰See, among others, Yee, A., Zubovic, E., Yu, J., Ray, S., Hildebrandt, S., Seidelman, W. E., & Mackinnon, S. E. (2018). Ethical considerations in the use of Pernkopf’s atlas of anatomy: A surgical case study. *Surgery*, 165(5), 860–867. <https://doi.org/10.1016/j.surg.2018.07.025>.

⁷¹Polak, R. J. A. (2018). Vienna Protocol for when Jewish or possibly-Jewish human remains are discovered. *Wiener klinische Wochenschrift*, 130(Supplement 3), S239–S243. <https://doi.org/10.1007/s00508-018-1343-y>

⁷²Polak, R. J. A., & Grodin, M. A. (2018). Letter: Nerve surgeons’ assessment of the role of Eduard Pernkopf’s atlas of topographic and applied human anatomy in surgical practice. *Neurosurgery*, 83(4), E188.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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