

# “Awaiting further brains!” Hans Jacob and Brain Research on Hamburg “Euthanasia” Victims

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## **Abstract**

Several neuropathologists conducted brain research on victims of so-called “euthanasia” programs carried out by the National Socialist (Nazi) regime in Germany from 1940-45. Some published their results in German journals or books during and after the war. One of these neuropathologists was Hans Jacob of Hamburg, a former Nazi party member and the leader of the same laboratory previously run by Alfons Jakob (Creutzfeldt-Jakob disease). Though much has been published on the unethical actions of Jacob’s fellow neuropathologist from Berlin, Julius Hallervorden, Jacob’s actions were remarkably similar and have not been previously analyzed in the neuroscience literature. Jacob dissected at least 42 patient brains from euthanasia centers near Hamburg, and saved the specimens from at least 17 of them. He published a 1956 book chapter featuring two such specimens. Jacob was denazified, had a notable career, and never publicly addressed his actions during the war. His ethical violations may not have been on the same scale as Hallervorden’s, but the impact of his work echoes to the modern era. As responsible researchers we must always be conscious of the provenance of material provided and not succumb to opportunistic temptation despite the ethical consequences.

## ***Introduction***

The neuroscientist Hans Jacob (1907-1997; Figure 1) began his medical career during the National Socialist (Nazi) era in Germany (1933-45). A major tenet of Nazism was so-called race hygiene, whereby the German race would be purified and the state would save costs through the elimination of “useless eaters,” initially the mentally handicapped and later ethnic or cultural minority groups. With the start of World War II, Nazi leader Adolf Hitler authorized the murder of the mentally handicapped through well-organized illegal actions. Through programs disguised under the euphemistic term “euthanasia,” which historians have later re-classified as child euthanasia, adult euthanasia, and wild euthanasia, about 275,000 neuropsychiatric patients<sup>a</sup> were murdered by gassing, starvation, drug overdose, or other means by 1945.<sup>1,2</sup> Of these, roughly 5,000 child neuropsychiatric patients were killed in at least 28 specialized children’s wards (*Kinderfachabteilungen*) throughout Germany and Austria.<sup>2-4</sup>

The murders required approval by the *Reichsausschuss zur wissenschaftlichen Erfassung erb- und anlagebedingten schwerer Leiden* (Reich Committee for the Scientific Treatment of Severe, Genetically Determined Illness) in Berlin.<sup>2</sup> Two active *Kinderfachabteilungen* reporting to the *Reichsausschuss* were Hamburg-Langenhorn<sup>b</sup> and, 31 miles southeast of Hamburg, the Lüneberg Mental Hospital for severely handicapped children.<sup>c</sup> Neurologist Friedrich Knigge (1900-1947), a Nazi Party (NSDAP) and National Socialist German Doctor’s Association (NSDÄB) member, directed the Langenhorn *Kinderfachabteilung* from 1940 to 1943. Here, Knigge murdered at least 22 children himself primarily with phenobarbital overdoses. The child would then die of aspiration pneumonia and the death certificate would list bronchial pneumonia as the falsified cause of death.<sup>5</sup>

As implied from the name of the Berlin committee, science was an integral part of the killing programs. The murdered victims' brains were sometimes sent to neuropathologists in local university or research institutes for further analysis; at least 2,097 brains from murdered patients were examined.<sup>6</sup> At least 37 scientific publications resulted from 170 cases investigated by German neuropathologists. In some instances, the brain selection and transport was likely based on the neuropathologists' specialized research interests.<sup>6</sup>

Already by 1934, Hamburg neuroscience had been Nazified, with Nazi neurologists assuming all leadership positions.<sup>7</sup> The NSDAP/NSDÄB member neuropsychiatrist Hans Bürger-Prinz (1897-1976) took over the leadership of the Hamburg University Neuropsychiatric Clinic in 1936, after his less politically-reliable predecessor was dismissed,<sup>8</sup> and appointed Jacob as Neuropathology Director in 1937.<sup>9</sup>

### ***Materials and Methods***

To investigate Jacob's past and involvement in euthanasia (Table 1), this author reviewed files from the Hamburg State Archive in Hamburg, Germany and supplemented these with information from the Institute for History and Medical Ethics at Hamburg University. Jacob's previously unreviewed personnel file<sup>9</sup> at the State Archive contained information about his Nazi memberships but contained little information related to euthanasia. The few remaining Langenhorn *Kinderfachabteilung* patient files<sup>10</sup> as well as the state prosecutor records for the postwar murder trial of the *Kinderfachabteilungen* directors<sup>11</sup> are also contained at the Hamburg State Archive. These files were consulted for the German language doctoral dissertation by Marc Burlon, a Hamburg psychiatrist.<sup>12</sup> Burlon also discovered Jacob's microscopic brain specimens and case files (mostly from Langenhorn, but also some from Lüneberg) in the

basement of the former Hamburg University Neuropathology Department in 2006 in innocuous-appearing cartons marked “ENTW.STOR.” (Developmental Disorders), and cross-referenced these with the Langenhorn patient files from the State Archive. This author reviewed the one patient file from the State Archive containing correspondence with Jacob<sup>13</sup> along with reviewing the state prosecutor files on Langenhorn, as well as interviewing Burlon for this paper and consulting his doctoral dissertation (published online). Burlon’s groundbreaking work in his dissertation and subsequent article<sup>5</sup> provided a crucial context for the analysis of Jacob’s Nazi past, the postwar publication by Jacob using brain specimens from euthanasia victims,<sup>14</sup> and the discussion of the ethical issues involved in utilizing brain specimens from murdered patients that are highlighted in this article. Historians Rebecca Schwoch of Hamburg and Carola Rudnick of Lüneburg provided further information as well about patient brain specimens buried in Hamburg in 2012 and Lüneburg in 2013, respectively.

***Hans Jacob establishes his career in Hamburg under political auspices***

Jacob took the position that had previously been held by Jewish World War I veteran Hermann Josephy (1887-1960), who by 1933 had been an established neuropathologist and associate professor.<sup>7</sup> Josephy had briefly taken over the department after the untimely death of Alfons Jakob (1884-1931, co-describer of Creutzfeldt-Jakob disease),<sup>15</sup> but was dismissed under Nazi legislation in 1933.<sup>7</sup> Four years later, Jacob took the vacant post of Neuropathology Director with the junior academic rank of assistant doctor, then was promoted to lecturer in 1940.<sup>9</sup>

In supportive letters for his 1939 habilitation,<sup>d</sup> Jacob’s special interest in developmental brain disorders was emphasized.<sup>9</sup> Jacob’s appointment and promotions were facilitated by his Nazi memberships. He was an NSDAP member since May 1937 (#4,956,292), the same year of his

Hamburg appointment, and had earlier joined the SA (*Sturmabteilung*, Stormtroopers) in 1934 and was later promoted to SA-*Rottenführer* (section leader). He also was a member of the Nazi People's Welfare (NSV) as of 1934, the NSDÄB as of 1937, and he worked as a licensed physician in the Main Office for People's Health in the Reich leadership of the NSDAP until the beginning of the war.<sup>9</sup>

***Jacob takes advantage of an opportunity***

By late 1939, the young Dr. Jacob was in a position to take advantage of an opportunity, and had a strong scientific interest in the types of brains that would become readily available in conjunction with the Nazi child euthanasia program. After all, the number of brains dissected in Jacob's laboratory jumped from 175 in 1939, the year prior to the opening of the *Kinderfachabteilungen*, to 224 in 1940, 262 in 1941, and 300 in 1942 (the pre-war low was 91 brains in 1936).<sup>9</sup> However, the records are unclear as to how the collaboration between his neuropathology laboratory and the Langenhorn and Lüneberg *Kinderfachabteilungen* was initiated. In a 1942 letter to Knigge requesting more medical history of childhood diseases or birth trauma on a euthanasia case Jacob was investigating, Jacob ended with the following: "*Mit ergebenstem Gruss und weiterer Gehirne harrend!*" (With best wishes and awaiting further brains!).<sup>13e-1A/B</sup> This suggests that he was enthusiastic about receiving and studying the brains.

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But Knigge testified postwar that Bürger-Prinz had initially made Jacob available for the euthanasia-victim neuropathology exams.<sup>12p.96</sup> Furthermore, in a postwar letter in Jacob's file it was implied that his neuropathology department had a long-standing relationship with local asylums: "In addition, material to be investigated from the state asylums Langenhorn, Lüneburg and also from various city hospitals...is processed."<sup>9</sup>

Regardless of how the collaboration was initiated, one source stated that Jacob examined at least 49 brains from Langenhorn and Lüneburg.<sup>6</sup> But this number is possibly inaccurate. Of the 22 children murdered at Langenhorn, microscopic brain slices from only five verified “euthanasia” victims were found. Those five victims’ specimens were buried in a special ceremony in Hamburg on September 15, 2012.<sup>16</sup> An additional 37 case files of verified euthanasia victims from Lüneburg (of the 418 children murdered there<sup>17</sup>) were found in Jacob’s specimen collection.<sup>18</sup> Of those 37 cases, microscopic brain specimens from 12 were found<sup>18</sup> and buried in a special ceremony on August 25, 2013 in Lüneburg in the former clinic cemetery.<sup>19</sup> No gross brain specimens were found from either euthanasia center. Thus with any certainty, it can only be said that Jacob dissected 42 brains of euthanasia victims in total.

Despite the implications and political and racial hygiene-tainted milieu at the time, no documents were found that could confirm whether or not Jacob knew the tainted source of the new scientific material delivered to him during the war, or his opinion about euthanasia. However, even without this clear documentation, one is left to consider whether neuropathologists should be concerned about the source of the material they are examining, and whether such material should be used in research papers if the source is not clarified explicitly.

#### ***A postwar publication using euthanasia victims’ brains***

In Jacob’s 1956 chapter<sup>14</sup> in the Henke-Lubarsch *Handbuch* he commented specifically on “*Megalencephalie und angeborener Schwachsinn*” (megalencephaly and congenital feeble-mindedness), stating the following:

It should be noted in this connection that of the tabulated works of [neuropathologists] A. Jakob, Weygandt, Volland, Schob the published brain weight numbers [between]

megalencephalic normal intelligence and [megalencephalic] feeble-minded patients

follows the evidence of our own material from 10 observations.<sup>14p.67-68</sup>

In this chapter Jacob explored the known causes of “congenital feeble-mindedness,”<sup>e</sup> and seemed to be specifically interested in the ‘*befundlose Idioten*’ (undiagnosed “idiots”). (Figure 2A) Two of the ten cases listed are child euthanasia victims whose microscopic brain slices were buried in 2013 in Lüneburg. Cross-referencing the list in Jacob’s chapter with a list of Lüneburg victim brain slices,<sup>18</sup> case “127a/42” is that of Friedrich D,<sup>e-2A</sup> a 9½ year old boy who was killed in

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1942. Jacob referred to this child as an “Idiotie” who had a brain weight of 1510g, shown as a macroscopic figure in the chapter. (Figure 2B) Jacob compared Friedrich D’s brain to a “normal-witted” individual’s brain, to attempt to show that although megalencephaly may not always lead to “idiocy,” it usually does. Jacob also included in the 10 observations a second euthanasia victim, Hans-Herbert N,<sup>e-2B</sup> age 8 at the time of death<sup>18</sup> but listed as a 9-year-old in Jacob’s table.

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Per Jacob this case, “129a/42,” had a 1420g brain, suffered from “*Idiotie, sporadische Krampfanfälle*” (idiocy and sporadic seizures),<sup>14</sup> and was further evidence that megalencephaly leads to congenital feeble-mindedness and neurologic disorders.

### Discussion

Despite his Nazi past, Jacob’s career was not over after the war. He continued his career in Hamburg, being promoted to salaried associate professor in 1946, and he was denazified in 1947 under Category V (Exonerated persons) and appointed senior physician in the Neuropsychiatric Clinic.<sup>9</sup> In 1956 he became Neurology Chief at the Hamburg-Altona General Hospital, and in 1958 became Neuropsychiatry Chair at Marburg University.<sup>9</sup> Jacob was one of 21 important neurologists listed in a recent book,<sup>20</sup> and in 1982 became an Honorary Member of the German Society of Neurology.<sup>21</sup> Despite these honors, Jacob never publicly acknowledged examining the



euthanasia victims' brains and had no qualms including two known euthanasia brain specimens in a book chapter in the 1950s.

One might argue that we shouldn't care about Jacob because the 42 euthanasia victim brains he dissected and one publication pale in comparison to Berlin neuropathologist Julius Hallervorden (1882-1965), who initiated the collaboration with the killing centers,<sup>22</sup> collected at least 697 brains,<sup>23</sup> and had at least 12 resultant publications based on this ethically-tainted material.<sup>6</sup> But shouldn't we be concerned about even one ethical violation on this scale? Opportunists such as Hallervorden, Jacob, and others "...circumvented what would otherwise have meant decades of troublesome procedure," and saw a quick means to an end in regard to research problems they wished to address.<sup>24</sup> Whether Jacob needed to use the euthanasia cases to further illustrate his hypothesis about megalencephaly and feeble-mindedness is debatable, as is the scientific accuracy of data that was obtained unnaturally. These children did not die a natural death, and their brains may contain different findings from a child that died naturally. Additionally they may have been malnourished and suffering from avitaminoses, further affecting their neuropathological findings. More importantly, Jacob voiced no ethical concerns with how the brains were obtained, and his work during the war potentially helped the killers to rationalize child euthanasia, because this work furthered scientific research into congenital and hereditary illnesses.<sup>6</sup> We must be aware as researchers of the larger impact of our work, and not merely concerned with any opportunity for career advancement or scientific funding opportunities when connected with political agendas.

One impact of Jacob's 1956 chapter featuring the euthanasia victims is that it has been cited 12 times from 1957-2013.<sup>25</sup> That Jacob's chapter continues to be cited in recent scientific publications suggests that it has not been relegated to history, and that further efforts need to be

made to educate the neurological community about the unethical provenance of the data. A closer review of the 12 citing publications reveals that none of them mentioned the unethical nature of Jacob's brain specimens; this is not surprising since little has been published previously in the neuroscience literature about the brains Jacob used, two of the publications were written or co-written by Hallervorden, and two were written by Jacob himself. Most of the publications were written in German and discussed developmental disorders of the nervous system. One of these 12 has been cited itself 172 times.<sup>26</sup> The continual citation of Jacob's chapter without mentioning the victims points to significant ignorance of the original patient source, and silently perpetuates the dishonor to them.

### ***Conclusions***

The majority of neurology journals and textbooks in the past decade have already generally featured a renamed version of the disease named after Hallervorden, or have included a qualification when the eponym has been used.<sup>27</sup> There is no eponym named after Jacob, but how should neurologists remember him and his actions? Per neuropathologist Jürgen Peiffer (1922-2006), who unwittingly published papers using unethical material while training in the 1950s in Munich, "... every scientist today has the ethical duty and moral obligation to refuse examinations of all materials which may or has been obtained by unethical means."<sup>6</sup> Hopefully we can all learn ethical lessons from Jacob's story about handling of such material. Jacob's unethical brain specimens have been buried and will never be used again for research or instruction which would further dishonor the victims. Also, perhaps any further reference to his book chapter should have an explanatory remark about the dark origin of some of the cases.

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**Figure legend**

Figure 1 – Hans Jacob (1907-1997). Reprinted with permission of the International Society of Neuropathology. Image taken from: Moore MT. Archives of The International Congresses and Society of Neuropathology 1952-1977. Philadelphia;Lea&Febiger:1978. (Fig. 30)

Figure 2A – List of 10 “Observations” on megalencephaly from Hans Jacob’s 1956 book chapter. Two cases, “Ni” (129a/42) and “Da” (127a/42), were “euthanasia” victims killed at Lüneburg in 1942. All but two of the megalencephalic cases listed had “idiocy” (with or without seizures or epilepsy), psychosis, or feeble-mindedness, thus supporting Jacob’s conclusion that generally megalencephaly leads to severe neurological dysfunction. Reprinted with permission of Springer-Verlag, Heidelberg.

Figure 2B – Figure 1 from Jacob’s 1956 book chapter. The figure legend states: “Megalencephalic extreme variation from a 28 year old normal witted patient (1600 g) (above). Megalencephalic idiocy at 9 1/2 years old (1510 g). Relatively simple sulcal pattern, relatively short, blunt frontal lobe (bottom).” The case of megalencephalic idiocy was Friedrich D. (case 127a/42 from Figure 2A), a euthanasia victim. The figure served Jacob’s point that megalencephaly likely, but not always, leads to severe neurological abnormalities. Reprinted with permission of Springer-Verlag, Heidelberg.

Table 1 – Chronology of events regarding Hans Jacob and Nazi euthanasia in Hamburg

Contributor	Information	Year
Jürgen Peiffer	Brief mention of 49 brain slices from euthanasia victims studied by Hans Jacob, and listed two of these used in a book chapter	1999
Marc Burlon	Discovery of remaining euthanasia victim microscopic brain slices prepared by Hans Jacob in the basement of Jacob's old institute	2006
Marc Burlon	Dissertation published on child euthanasia in Hamburg during the Nazi era	2010
Rebecca Schwoch, Heinz-Peter Schmiedebach	Burial ceremony of brain slices of 5 Langenhorn euthanasia victims (found by Burlon)	2012
Carola Rudnick	Burial ceremony of brain slices of 12 Lüneburg euthanasia victims (found by Burlon)	2013
Lawrence A. Zeidman	Analysis of Hans Jacob's personnel file and Nazi affiliations, clarification of the number of brains Jacob dissected, analysis of Jacob's use of euthanasia victim brain specimens in his book chapter, discussion of the use of Nazi victim brain slices generally in an ethical context	2016

<sup>a</sup> **Online content-** For the child euthanasia program, physicians and midwives were required to report all infants and children below age 3 (later expanded to include all minors and infants with handicaps, even teenagers) with the following disorders: Idiocy and mongolism (especially with blindness and deafness; mongolism = Down Syndrome), microcephaly, severe or progressive hydrocephalus, all deformities (especially missing limbs or severely defective head or vertebral closure (spina bifida)), paralysis, including Little's disease (spastic diplegia, cerebral palsy). For the adult euthanasia program, physicians were asked to report the following types of patients, primarily if incapable of working, but also for racial reasons: patients institutionalized more than 5 years, patients with the following conditions if they were unable to do more than minimal labor: schizophrenia, epilepsy, senile diseases, therapy-resistant (progressive) paralysis and other forms of syphilis, encephalitis, Huntington's Disease and other terminal neurological illnesses, every type of feeble-mindedness, patients committed as criminally insane, patients without German citizenship, patients not of "Germanic or related blood" (Negro, Negro hybrid, Gypsy, Gypsy hybrid, Jew, Jewish hybrid (*Mischling*) of first or second degree). Adapted from the following: 1) Friedlander H. Killing Handicapped Adults. In: The origins of Nazi genocide: from euthanasia to the final solution. Chapel Hill: University of North Carolina Press; 1995:62-85; 2) Friedlander H. Killing Handicapped Children. In: The origins of Nazi genocide: from euthanasia to the final solution. Chapel Hill: University of North Carolina Press; 1995:39-61; 3) Proctor RN. The destruction of "lives not worth living." In: Racial Hygiene: Medicine Under the Nazis. Cambridge, MA: Harvard Press; 1988:177-222.

<sup>b</sup> Knigge was later tried for murder but acquitted and died of poliomyelitis. See: Burlon M, Van den Bussche H. Euthanasie an Kindern in Hamburg während des Nationalsozialismus. *Pädiat. Prax.* 2013;14;81:635-644. The testimony of famed neurologist Max Nonne (1861-1959) at Knigge's trial undoubtedly influenced the outcome. Nonne wrote that "...the extermination of those who are completely mentally dead is not a crime, not an immoral action, not emotionless brutality, but rather a useful, permissible act." See: StAHH 741-4\_A81/72 (microfilm), p.95. Memorandum of Prof. Dr. Nonne for Senator Ofterdinger, undated, probably 1942.

<sup>c</sup> At the Lüneberg *Kinderfachabteilung*, 695 children were admitted from 1941 to 1945, of which 418 did not survive (death ratio = 60.1%). Like in Langenhorn, the children primarily were killed with overdoses of phenobarbital. The young "politically reliable" NSDAP member and Waffen-SS *Obersturmführer* (first lieutenant), neuropsychiatrist Willi Baumert (1909-), ran the *Kinderfachabteilung* along with Lüneberg director Dr. Max Bräuner (1882-1966). See: Sueße T, Meyer H. Die "Kinderfachabteilung" in Lüneburg: Tötung behindeter Kinder zwischen 1941 und 1945. *Praxis der Kinderpsychologie und Kinderpsychiatrie* 1993;42:234-240. No direct correspondence between Jacob and Lüneberg has been found thus far. Many documents in Lüneberg were destroyed postwar, and there was resistance even in the 1980s into an exhibit about the crimes committed there. See: Pörksen N. Hindernisse bei einer Ausstellungsvorbereitung: Die Psychiatrie in Lüneburg zur Zeit des Dritten Reiches – und 50 Jahre danach. In: Das Schicksal der Medizin im Faschismus. Berlin;VEB Verlag Volk und Gesundheit:1989:201-204.

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<sup>d</sup> In Germany and Austria, a habilitation thesis along with some years of experience working in one's specialty or field are required to be given a teaching license, or become habilitated at a university.

<sup>e</sup> At the time, the term idiot meant a "mentally deficient" patient who could never master spoken or written language, followed by imbeciles, who could speak but not write, and then by the "feeble-minded," who were only slightly deficient mentally. In America, the term "moron" was substituted in some cases for "feeble-minded." See Gould SJ. Dr. Down's Syndrome. In: *The Panda's Thumb: More Reflections in Natural History* (reissued version). New York; W.W. Norton & Co.: 1992:160-168.