Thirty Neurological Eponyms Associated with the Nazi Era

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Introduction
The 1920s were a period of exceptional advancement for the neurosciences in Germany [1]. Then came Hitler’s regime, and with it 2 distinct changes happened to the research milieus in Berlin and elsewhere. First, the persecution of Jews and others deprived Germany of many of its most outstanding scientists. Second, numerous German and Austrian physicians became active in National Socialist (NS)-euthanasia programs. In recent years, the medical community has become more aware of the ethical burden associated with eponyms derived from scientists of the Third Reich. Yet a list of these eponyms with emphasis on clinical neurology is still missing. This paper therefore reviews 30 neurological eponyms derived from 29 physicians who lived in the Nazi era. Among them are victims who were forced out of the country or murdered in concentration camps, protestors who risked their academic careers and often their lives, beneficiaries who published on brains from ‘euthanized’ children, and collaborators who were directly involved in the planning and execution of NS-euthanasia programs.

Key Words
Asperger syndrome • Creutzfeldt-Jakob disease • Euthanasia • Gerstmann-Sträussler-Scheinker disease • Hallervorden-Spatz syndrome • Lewy body dementia • Niemann-Pick disease • Rett syndrome • Seitelberger disease • Wallenberg’s syndrome

Abstract
In the 1920s, the neurosciences in Germany were world-class. Then came Hitler’s regime, and with it 2 distinct changes happened to the research milieus in Berlin and elsewhere. First, the persecution of Jews and others deprived Germany of many of its most outstanding scientists. Second, numerous German and Austrian physicians became active in National Socialist (NS)-euthanasia programs. In recent years, the medical community has become more aware of the ethical burden associated with eponyms derived from scientists of the Third Reich. Yet a list of these eponyms with emphasis on clinical neurology is still missing. This paper therefore reviews 30 neurological eponyms derived from 29 physicians who lived in the Nazi era. Among them are victims who were forced out of the country or murdered in concentration camps, protestors who risked their academic careers and often their lives, beneficiaries who published on brains from ‘euthanized’ children, and collaborators who were directly involved in the planning and execution of NS-euthanasia programs.
There is increasing recognition of the ethical burden associated with eponyms from scientists of the Nazi era [4], yet a list of such eponyms with emphasis on clinical neurology is still lacking. This paper therefore lists 30 eponyms and their describers, classified according to Raul Hilberg into perpetrators (table 1), victims (table 2) and bystanders (table 3) [5]. Perpetrators are further divided into collaborators, who were directly involved in NS-euthanasia programs, and beneficiaries, who advanced their academic profile in the post-war period by publishing on material derived from ‘euthanized’ victims. Bystanders are grouped into protestors and physicians who played ambivalent roles during the Nazi era. To elucidate the diversity of fates and actions associated with the eponyms in this paper, the most representative biographies from each category are provided below in greater detail.

### Perpetrators

**Collaborators**

Julius Hallervorden (fig. 1) is the best-known physician to be honored with a neurological eponym despite his involvement in NS-euthanasia. At the beginning of the Second World War, Hallervorden was a professor of neuropathology at the Kaiser Wilhelm Brain Research Institute in Berlin and the Brandenburg State Hospital. The latter was 1 of 6 elimination centers established under the Nazi ‘euthanasia’ program code-named T4. Over 70,000 patients with various brain diseases were killed by barbiturate injections or gassing with carbon monoxide in disguised shower facilities. Hallervorden personally

Table 1. Neurological eponyms derived from names of perpetrators

<table>
<thead>
<tr>
<th>Collaborators</th>
<th>Actions</th>
<th>Eponym</th>
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**Beneficiary**


Places indicate site of main professional engagement. ¹ Only selected references are shown, see text for further details.

Fig. 1. Julius Hallervorden (1882–1965), ca. 1935.
### Table 2. Neurological eponyms derived from names of victims

<table>
<thead>
<tr>
<th>Physicians who lost their lives</th>
<th>Fate</th>
<th>Eponym</th>
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<tr>
<th>Physicians forced to emigrate</th>
<th>Fate</th>
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<th>Physicians forced to leave office</th>
<th>Fate</th>
<th>Eponym</th>
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<tr>
<td>Ernst Moro (1874–1951). Pediatrician. Heidelberg (Germany) [45].</td>
<td>Forced to leave chair of Heidelberg Children Hospital because of marriage to Jewish wife.</td>
<td>Moro reflex: startle reflex of infants, usually seen in the first 3 months of life.</td>
</tr>
</tbody>
</table>

Places indicate site of main professional engagement. ¹ Only selected references are shown, see text for further details.
selected and examined living patients before removing their brains on site [6]. During these years, he and his friend Hugo Spatz collected several hundred brains derived from the T4 program [6]. Hallervorden called their work an ‘exemplary collaboration’ [7], and Spatz said it was ‘as intense as it was harmonic and would only be disturbed by the approaching war’ [8]. Based on the material from ‘euthanized’ patients, Hallervorden published 12 papers after the war, several of which are listed in Medline. Hallervorden later admitted his involvement in the T4 operation and its scientific exploitation in the often-quoted conversation with Leo Alexander, a Jewish neurologist and Holocaust refugee. Hallervorden said, ‘I told them, “Look here now, boys. If you are going to kill all

**Table 3. Neurological eponyms derived from names of bystanders**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Eponym</th>
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<tr>
<td><strong>Protestors</strong></td>
<td></td>
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<tr>
<td><strong>Physicians with ambivalent roles</strong></td>
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</tbody>
</table>

Places indicate site of main professional engagement. ¹ Only selected references are shown, see text for further details.
those people, at least take the brains out so that the material can be utilized.” They asked me, “How many can you examine?” and so I told them … the more the better.’ Although he felt at times ‘slightly nauseated’, Hallervorden ‘accepted the brains, of course. Where they came from and how they came to me was really none of my business’ [9]. After the Second World War Hallervorden became President of the German Neuropathological Society and continued his research undisturbed at the Max Planck Institute in Giessen, Germany.

**Beneficiaries**

Franz Seitelberger (fig. 2), a Vienna neurologist and former member of the SS [10, 11], may serve as an example of physicians who, although never involved in the planning or execution of NS-euthanasia, benefited from it scientifically during the post-war period. Examining the brains of 3 ‘euthanasia’ victims from the Landesanstalt Görden in Brandenburg, Seitelberger earned his PhD in 1954 under the supervision of Julius Hallervorden [11]. The disorder described in this work is known as sudanophilic leukodystrophy of the Seitelberger type [12]. In his paper Seitelberger acknowledges Hans Heinze for the provision of the medical history and the anatomic specimen [12]. Heinze had been director of the mental health institution in Görden, where he supervised the murder of hundreds of children whose brains he then supplied to neuropathologists and other scientists [11]. Afterwards, Seitelberger worked together with the NS-euthanasia physician Heinrich Gross (1915–2005) who had been directly involved in the systematic murder of cognitively disabled children at the Spiegelgrund hospital in Vienna [13–15]. Like Hallervorden and Spatz, Gross had gathered a large collection of specimens from ‘euthanized’ children, which served as the basis for his academic work after the war [10, 13–15]. Between 1955 and 1966, Seitelberger and Gross published 5 papers together that can be found in Medline [16–20]. At least 2 papers that Seitelberger has co-authored were based on the brains of ‘euthanized’ children from Spiegelgrund hospital [10, 14, 15, 21]. Gross and Seitelberger continued to publish together in the 1980s after it had become apparent that Gross was a war criminal [22]. Seitelberger remained to his death a highly honored scientist. He was rector of Vienna University in the 1970s, chair of various international societies and received an impressive number of scientific awards [23].

**Victims**

Ludwig Pick (fig. 3) studied medicine in Heidelberg, Leipzig, Berlin and Königsberg. He obtained his doctorate in Leipzig in 1893 and became a professor of pathology at Friedrichshain Hospital in Berlin in 1909 [1, 4, 24]. He was known worldwide and gave invited lectures in New York in 1913 and 1914. Thereafter, Pick served with distinction in the German army during the First World War. Pick’s research included many areas of pathology. In addition to Nieman-Pick disease, he has been honored...
with several eponyms unrelated to neurosciences [4]. He was Dunham Lecturer at Harvard Medical School in 1931–1932 [1, 24].

In 1933, 2 months after Hitler had come to power, the Nazi regime passed the 'Law for the Restoration of the Professional Civil Service' which was intended to remove Jewish and other civil servants of 'non-Aryan' descent from their posts. Shortly after, a similar law was passed that targeted other professional groups such as doctors and lawyers. Thus, Pick was discharged from his post in Berlin in 1933 [1, 24]. His successor was Franz Büchner (1895–1991) who later became one of the few prominent German physicians who spoke out against NS-euthanasia [1]. Refusing to emigrate, Pick stayed in Berlin until he was arrested in 1943. He died on February 3, 1944, in the Theresienstadt concentration camp [1, 24]. The quote ‘Love is a psychosis that always may be given a good prognosis’ has been attributed to Pick, a convinced bachelor [24], who gave his name to Pick dementia.

**Bystanders**

**Protesters**

Oskar Vogt and Cécile Vogt (born Mugnier; fig. 4) were spouses and colleagues. They met in Paris at the Salpetrière Hospital and married in 1899. The couple established the Kaiser Wilhelm Brain Research Institute in Berlin that soon became one of the most prestigious neuroscience centers in the world. In 1924, Oskar Vogt followed an invitation from the Soviet government to examine Lenin’s brain [25]. For several years the Vogt couple headed simultaneously the Institute in Berlin and the Moscow Brain Research Institute. They openly detested Hitler’s regime and its ideology of ‘racial hygiene’. Oskar Vogt considered science as entirely cosmopolitan and did not bow to the pressure to select his personnel according to racial rather than academic considerations [26]. Consequently, the Nazis resorted to open terror. During 2 nighttime raids in 1933, the Vogts were threatened with pistols, their employees physically tortured and laboratory equipment destroyed [26]. Being a very illustrious couple with contacts to the Krupp and Rockefeller families, Oskar and Cécile Vogt managed to survive when the Nazis forced them out of office in 1937. Hugo Spatz succeeded Oskar Vogt as director of the Kaiser Wilhelm Institute. Spatz reconciled its research profile with the regime’s racial ideology by focusing on hereditary diseases that the Nazis planned to eliminate [26]. This resulted in Spatz’s collaboration with Julius Hallervorden and NS-euthanasia. Turning down attractive offers from the USA, Switzerland and Sweden, Oskar and Cécile Vogt founded a new research institute in Neustadt (Black Forest, Germany) with financial help of the Krupp and the Rockefeller foundations [26]. During the Second World War the
Vogts hid several Jewish refugees, among them the former editor-in-chief of one of Germany’s most respectable newspapers, *Die Frankfurter Zeitung* [26]. After the war, in an ironic twist, Oskar Vogt sent a letter to the International Military Tribunal for the Nuremberg Trials stating his interest in examining the brains of major Nazi criminals in cases where they would be condemned to death. This proposal, however, was ‘too hot to handle’ and turned down [26]. Oskar and Cécile Vogt should not be confused with Alfred Vogt (1879–1943) of Vogt-Koyanagi-Harada syndrome, or Heinrich Vogt (1875–1936) of Batten-Spielmeyer-Vogt disease.

**Physicians with Ambivalent Roles**

Hans Gerhard Creutzfeldt (fig. 5) was a German neurologist and neuropathologist whose scientific contribution to the description of Creutzfeldt-Jakob disease has been disputed [27, 28]. Although Creutzfeldt had made clear that he disliked Nazi policies, he became an associate member of the SS in 1932 [29]. During the Second World War he was director of the Clinic for Psychiatry and Neurology in Kiel, Germany, from which over 600 patients were transported to provincial hospitals in Schleswig-Holstein where many of them – predictably – lost their lives as part of the T4 operation. Creutzfeldt prevented the transportation of patients [4], however, much less frequently than previously thought [29]. In their 2005 review of Creutzfeldt’s life and work, Wolf and Foley [29] said that his statement that he was ‘a decided opponent of the murder of the psychiatrically ill’ was not consistent with his lack of energy in the prevention of such murders. In 1941 and 1942 Creutzfeldt put great effort into reversing a previous concatenation of a soldier who had deserted, which led to an avoidable death sentence [29]. Yet Creutzfeldt’s son allegedly joined the resistance in 1942 and his wife was imprisoned in 1944 because she had made remarks critical of Hitler [29]. In 1954 Creutzfeldt informed the President of the Regional Court in Schleswig Holstein that the NS-euthanasia physician Werner Heyde (1902–1964) was employed as a medical reviewer at the court, but Creutzfeldt did not proceed any further when his letter failed to initiate an investigation of Heyde’s case [30].

Andreas Rett (fig. 6), known for his struggle for the rights of mentally disabled children in the post-war era, was a member of the National Socialist German Workers’ Party (NSDAP) [31] and had served in the German navy during the Second World War. In the early 1950s he started a clinic in Vienna for children with mental disorders despite opposition from influential colleagues who claimed, ‘these idiots are a disgrace to the hospital’ [32]. Many of his patients had survived the child ‘euthanasia’
project at Spiegelgrund [32]. Rett, who became a Freema-
son after the war, received a prestigious prize for his fight
for the rights of disabled children. Zimperich et al. [32]
call him a ‘social reformer [offering] a dignified and pur-
poseful life to many who had been considered a hopeless
burden to society’. Yet Medline lists a paper from 1968
that Rett wrote together with Heinrich Gross, the NS-eu-
thanasia physician referred to above [33]. Also, this paper
was based on material from Spiegelgrund victims [15, 21,
31]. Why would Rett cooperate with Gross who had or-
dered the killing of the very children whose rights Rett
fought for so vigorously? One explanation might be that
at that time in Austria there was little interest in uncover-
ing the Nazi past [10]. Indeed, Gross was awarded the
Ehrenkreuz für Wissenschaft und Kunst Erster Klasse
(Cross for Accomplishments in Science and the Arts,
First Class) by the Republic of Austria in 1975 (the prize
was stripped only in 2003). It was not until 1981 that the
Vienna High Court issued a verdict that Gross had in-
deed been involved in a considerable number of killings
at Spiegelgrund hospital [34]. It is, therefore, likely that
the readiness of the public to close its eyes to the atrocities
committed during the Third Reich by fellow citizens ex-
tended into the medical profession. With this background
one may begin to understand how Rett and Gross could
cooperate. In the 1960s they happened to work at the
same institution and despite all differences they shared a
deep interest in pediatric neurology.

Commentary

How should eponyms associated with the Nazi era be
dealt with? There are, somewhat simplified, 3 different
approaches. First, some advocate abandoning these ep-
onyms altogether, since they feel that criminals like
Hallervorden should no longer be honored [35]. Yet ep-
onyms bring color into the world of medical science and
they facilitate the reference to complex, often little under-
stood diseases. Importantly, their rejection would not
only wipe out the legacy of Nazis and other perpetrators,
it would also delete the academic recognition of numer-
ous victims and the few, yet so important, protesters. Sec-
ond, some believe only eponyms derived from perpetra-
tors should be abandoned, whereas those of victims
should be emphasized [4]. While this approach may seem
straightforward with many eponyms presented in this
paper, there are numerous others that belong to a gray
zone. As is obvious from the biographies of Creutzfeldt
and Rett, the motives of the protagonists were as complex
as the circumstances of the time. The third approach,
therefore, states that eponyms should be kept and their
historical origin emphasized, thereby raising the reader’s
awareness of the ethical context. The author favors this
concept. Adding ‘formerly’ to the eponyms of those who
clearly no longer should be honored (e.g. neurodegenera-
tion with brain iron accumulation, formerly Hallervor-
den-Spatz syndrome) may be detrimental for readability,
but it preserves the historical importance of the term.
Most significantly, the scientists who lend their names to
these eponyms would be remembered, not for their sci-
entific achievements, but for their violation of medical
ethics.

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