

## The Abuse of Psychiatry and (Psycho) Pharmacology in Nazi Regime and the Nuremberg Trials: Ethical Issues in Human Research

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After World War II, an international military court sentenced 20 Nazi doctors and 3 collaborators with crimes against the humanity at the Nuremberg Trials. For the past 70 years after Nuremberg Trials, the restoration to pre-Nazi's ethical standard has been progressed. The eugenicist theories and the policies of racial hygiene were the fundamental axes of the Nazi euthanasia programs without paying attention to the basic ethics of the medicine. German psychiatry that it enjoyed an extraordinary international reputation, played a capital rôle in these programs and the mental patients supposed the main group of risk for these practices during the Nazi era. In this overview, we deal with, the historical perspective of the euthanasia programs of the mental patients, and the procedures for its execution, and the use of the mental patients as investigation tools. Direct consequence of the mentioned penal process gave birth to the Nuremberg Code, which has been considered as the first international code of ethics for the medical experiments with human subjects. During the last 70 years, it has advanced substantially in the restoration of ethical codes and norms to protect patients in particular in the field of psychiatry and psychopharmacology, and its culmination of advancement has been in the 1996 Declaration of Madrid.

**Key words:** history of psychiatry, psychopharmacology, psychiatric research, medical ethics

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## Introduction

“Those who cannot remember the past are condemned to repeat it.”

*Jorge Agustín Nicolás Ruiz de Santayana y Borrás  
Known as George Santayana (1863-1952)*

Today, the concept of ethics (*ethikos*, “theory of living”) is associated with diverse aspects of human life, within the more general sphere of moral philosophy. Thus, ethics can be defined as the study of conduct “whether an action is right or wrong, and the goodness or badness of the motives, and ends of the action” [1].

In biomedical research, the ethical issues were important in Germany in the pre-Nazi period. In the so-called “Neisser Scandal” of 1900, prostitutes were used to study a vaccine against syphilis, without their being informed [2]. In the wake of this scandal, the government of the Prussian Reich introduced a series of ethical regulations on human experiments with new therapeutic tools. Later in 1931, the Ministry of Health published its *Guidelines for New Therapies and Experimentation in Humans*, which has been referred to the principles of beneficence, non-maleficence, autonomy of the patient, and the legal doctrine of informed consent, prohibiting experiments on the dying and with the economically or socially destitute (Table 1) [2]. These norms were indeed even stricter than those subsequently enshrined in the Nuremberg Code or the Declaration of Helsinki [3].

During 1945-1949 after World War II, the former leaders of the Nazi regime were charged and tried as war criminals by an international military tribunal at the famous Nuremberg Trials. Exactly 70 years ago, in December 1946, hearing began in the trial of 23 doctors or collaborators

implicated in the crimes of this totalitarian regime (The Doctors’ Trial). This trial exposed a terribly abnormal racist ideology which sanctioned and institutionalized criminal behavior related to public health and human research [4]. Among violations of ethics in medical professionals, in particular psychiatrists [5], transgressions included the use of psychotropic drugs.

In 1947, a direct consequence of this trial was the drafting the Nuremberg Code, which has been considered as the first international code of ethics for conducting experiments with human subjects, to prevent any kind of repeated atrocities committed in Nazi Germany. The Nuremberg Code was drawn up to safe-guard the rights of patients participating in human experiments. It has had a profound influence on human rights and bioethics, and has formed the basis of subsequent norms and codes both in the field of biomedicine in general (Declaration of Helsinki, 1964), and that of psychiatry and psychopharmacology (Declaration of Hawaii, 1977; Declaration of Madrid, 1996) [6, 7].

In this overview, we are dealing with the historical development of the political abuse of psychiatry and of unethical institutional experiments with patients of the mentally ill, mainly through the Nazi tragedy, but also through a brief review of some other recent abuses.

## German Psychiatry before the Nazi Regime

Throughout the second half of the 19th century, German psychiatry began to acquire an increasingly relevancy and play prestigious international rôle, gradually taking over from the predominant French school. Under the influence of German psychiatry, moral questions were growing less and less acceptable to many, and

**Table 1. Ethical principles of the New Therapy and Human Experimentation (Reich Guidelines Circular, February 28, 1931).**

1. Sometimes in advancing medical science, novel procedures may be introduced, which involve scientific experimentation on humans in an attempt to diagnose, treat, or prevent certain diseases. The physician must carefully weigh out his responsibility for the life and health of any patient before he considers performing innovative treatment or scientific experimentation.
2. Innovative treatment specifically refers to therapeutic procedures on humans that have not been sufficiently evaluated on the basis of present knowledge or experience.
3. Scientific experimentation specifically refers to interventions or treatment methods on humans for research purposes without serving therapeutic purposes and whose effects cannot be sufficiently evaluated on the basis of present knowledge or experience.
4. Any novel treatment must be justified and must be performed according to the principles of medical ethics and of medical practice and theory. The anticipated benefits must be weighed out against possible adverse effects.
5. Innovative treatment may only be carried out after the patient or his legal representative has unambiguously consented to the procedure based on the relevant information provided in advance. When consent is refused, therapy can only be initiated if it is urgent to preserve life, prevent serious damage to health, or prior consent could not be obtained under the circumstances.
6. Particular care must be taken of whether or not to use innovative treatment on children or any person under 18 years of age.
7. Exploiting social hardship to undertake innovative therapy is incompatible with the principles of medical ethics.
8. Extreme caution is indicated for any innovative therapy involving microorganisms, particularly live pathogens. Such therapy is only permissible if the procedure can be assumed to be relatively safe, and similar benefits are unlikely to be achieved by any other method.
9. In clinics, hospitals, and other health care facilities, innovative therapy may only be carried out by the physician-in-chief or another physician designated by him in accordance with his specific instructions.
10. A report must be filed of any innovative therapy, the purpose of the procedure, its justification, and the manner in which it was carried out. A statement with full disclosure must be added that the patient, or when appropriate his legal representative, has been provided with the necessary information in advance, and that consent was given. Full details must also be filed in those instances in which consent was refused or could not be obtained, but urgent innovative therapy was necessary to preserve life or to prevent serious damage to health.
11. The results of any innovative therapy may be published provided the patient's dignity is respected and the name is not used.
12. Requirements for human experimentation:
  - (a) Human experimentation is prohibited in all cases in which consent has not been given.
  - (b) Experimentation involving human subjects must be avoided if animal studies will suffice.
  - (c) Experimentation involving children or youngsters under 18 years of age is prohibited if it endangers them in any way.
  - (d) Experimentation on dying subjects is unethical and is prohibited.
13. Physicians, particularly those in charge of hospitals, should be guided by a strong sense of responsibility towards their patients. However, they may also seek new ways of protecting or treating patients or alleviating their suffering if they are convinced that known medical methods are likely to fail.
14. Academic training courses should stress the physician's special role when carrying out any novel form of therapy or scientific experiment, as well as publishing the results in an ethical manner.

guiding psychiatry toward a more somaticist approach, which soon imposed itself within the different European currents. The somatization of psychiatry was also favored by the rise of other currents, such as the criminological positivism of the Italians and the theory of degeneration from the French school [8], as well as by the advance of the anatomic-clinical mentality, shown by the excellent German neurohistologists and neuropathologists [9]. Key figures seeing mental disorders as a direct consequence of certain organic lesions, were Wilhelm Griesinger (1817-1868), Emil Kräpelin (1856-1926), and Carl Wernicke (1848-1905). First two investigators studied schizophrenia, and Wernicke published an accurate description of schizoaffective psychosis in 1900. The figure with an international prominence was Sigmund Freud (1856-1939), who through his study of hysteria made an important psychiatric current of the 20th century, *i.e.* the psychoanalysis.

In additions, German psychiatry in the first half of the 20th century continued to lead the development of this discipline, with the introduction of new thinking figures such as the phenomenological psychopathology of Karl Jaspers (1883-1969) (*Allgemeine Psychopathologie, Ein Leitfaden für Studierende, Ärzte und Psychologen*, 1913), the existential analysis of Ludwig Binswanger (1881-1966); and the bio-typological characterology of Ernst Kretschmer (1888-1964). Finally, in 1933, Oswald Bumke (1877-1950) published his *Handbuch der Psychiatrie*, an essential reference work at the time, and a symbol of the culmination of post-Kräpelinian psychiatry, highlighting the absolute authority of German psychiatry in the world in the pre-Nazi years.

From the perspective of patients' care, German asylums at the turn of the century may also have been the best in the world. Various federal states (*Bundesstaaten*) in Germany subsidi-

dized the operation of their asylums adequately and generously.

Furthermore, psychiatrists incorporated professionals from the university community, whose scientific mentality constituted an added-value. Moreover, those professionals were steeped, from the starting of their university careers. The culture of *Herr Geheimrat*, a motivation to excel and to gain honors through their professional activity, was a concept virtually unknown in other European countries [10]. In 1911, Germany had 16 university psychiatric clinics (in addition to 187 public and 225 private asylums). The prestige of these institutions was further increased by their substantial contributions in diagnostic tools (such as, electroencephalography) and therapeutic techniques. The latter is known as biological treatments (pyreotherapy through paludization, insulin shocks, convulsive therapy with cardiazol, *etc.*). In conclusion, German psychiatry (and indeed, medicine in general) did enjoy an excellent international reputation in the pre-Nazi years.

### **Seven Steps in Abuse of Psychiatry during the German Nazi Regime**

In 1933, Adolf Hitler (1889-1945) became Chancellor of Germany and the National Socialist Party (*Nationalsozialistische deutsche Arbeiterpartei*) gradually established a one-party state. Under the Nazi rules, Jews, political opponents, and other "undesirable" elements started to be marginalized in Germany. The whole regime had stayed in power for about 12 years, from 1933 till 1945 after its defeat at the end of WWII by the Allies Forces. Some authors considered 1933 as "the year German psychiatry went bankrupt" [11].

The atrocities in Germany under the Nazi regime were full-scale, and the order of the German

society was destroyed systemically. For the purpose of description, we in this section of this overview only concentrate on describing the aspects of psychiatric abuse. To document systemically, we are dividing them into seven “steps” here to describe psychiatric abuse in Nazi Germany. The categorization of those seven steps is arbitrary, and it does not mean that the events took place step by step. The steps of psychiatry abuse in about 12-year Nazi Germany were overlapping, and were often taking place systemically and simultaneously.

### ***Step 1. The influence of eugenicist theories in psychiatric ethics***

The first third of the 20th century saw a sharp increase in popularity of theories based on eugenics, leading eventually to the tragedy of the Holocaust. A prestigious scientist, taking inspiration from popular Darwinist perspectives regarding natural selection among species and “survival of the fittest,” widely propounded such ideas after 1900, even beyond the frontiers of Germany. Ernst Rüdin (1874-1952), professor of psychiatry at the universities of Basel and (later) of Munich, and director of the department of genealogy and demography at the Kaiser-Wilhelm Institute in Munich, claimed to have demonstrated the hereditary nature of schizophrenia (*dementia praecox*) [12], implying that mental disorders were refractory to any type of treatment. The solution proposed by Rüdin and other geneticists was “the cleansing of the genes of the race,” and got rid of “rotten matter of the social body.”

Another reputable psychiatrist, Alfred Hoche (1865-1943), professor at the University of Freiburg, in a book published in 1920 and co-written with the lawyer Karl Binding (1841-1920) (*Die Freigabe der Vernichtung lebensunwerten Lebens*, Permitting the Destruction of Unworthy

Life), asserted the active euthanasia for some mental patients. Binding and Hoche declared that doctors should sometimes commit themselves to the idea of taking away their lives of certain mental patients who are “empty human shells,” in the interest of achieving a better community.

Those pseudoscientific theories prompted the Nazi government to introduce a policy of “racial hygiene” later in Germany, resulting in causing extremely harmful political, social, and scientific consequences [4, 13-16]. The aim of this political and social movement was to enhance the reproductive rate of the so-called “Aryan race.”

Therefore, prominent members of the medical community promoted “racial science” and eugenics. With racist political ideology, this policy opened Pandora’s box during the Nazi period [14]. Sterilization of the mentally ill was the beginning for generalized extermination [11, 17, 18]. Medicine thus was in the main tool to the eugenics and race hygiene movement, and anti-Semitism was medicalized.

### ***Step 2. The Sterilization Act as prelude of the tragedy***

On January 30, 1933, Hitler as a chancellor of Germany began to implement his election promises that brought him to power, racist policies in defence of a “superior race” [19]. The Nazi government was soon enacting a series of laws referring to racial segregation and protection of the race, collaborating with certain sectors of the German medical community. The first law was the *Gesetz zur Verhütung erbkranken Nachwuchses*, or law for the prevention of genetically defective progeny (better known as the Sterilization Act), passed on July 14, 1933. This law permitted, on the approval of a panel made up of two doctors and a judge, the enforced sterilization of subjects with any of the following diagnoses – congenital

feeble-mindedness, schizophrenia, “circular madness” (manic-depressive psychosis), hereditary epilepsy, hereditary St. Vitus’ dance (Huntington’s chorea), congenital blindness and deafness, pronounced bodily malformations of a hereditary nature, or severe chronic alcoholism [17, 19-21]. The law was applied together with the *Gesetz gegen gefährliche Gewohnheitsverbrecher* (Act against Dangerous Criminals), which had the same goal with the same methods [22, 23].

The eventual goal of those laws was to remove a complete generation of subjects with genetic deficiencies, to “purify” the gene pool and to improve the “Germanic race.” To popularize these programs, the Nazi government mounted wide-ranging propaganda campaigns, with posters, documentaries, radio advertisements, textbooks, and popular educational programs, intending to convince different professional groups [19]. The Nazi propaganda machine was effective as a tool for corrupting citizens’ conscience and public opinion [13].

Some sections of the German medical fraternity readily accepted this law, which gave immense power in the hands of psychiatrists who would give diagnoses on whether patients suffered from schizophrenia, whether they should be sterilized, or whether they were free from mental disorders. Enforced sterilization was carried out in clinics for mental or disabled patients, generally using surgical procedures. If not surgically possible, they were exposed to the radiation of radium or X-rays. The sterilization program began in 1934, and effectively ended with the outbreak of WWII. Totally, 350,000 persons were sterilized (0.5% of the total population), and the incidence of deaths during the surgical procedures was 1%-5% [24].

Under the certain general enthusiasm during the early years of the Third Reich, the psychia-

trists involved in applying those laws, and those who passively accepted them, argued that they were conceived for the benefit of the nation and the health of subsequent generations, and not for the individual patients [16]. Concepts such as those of *cause majeure* or “holy mission” were invoked [23, 25]. Few psychiatrists could dissociate themselves totally from this grotesque machinery, to help carry out sterilizing the mentally ill.

### **Step 3. The Nuremberg Laws**

From 1934 to 1935 after the passing of the Sterilization Act, the Nazis enacted a series of laws called generically the Nuremberg Laws. Those referred to “the purification of the blood of the German people,” through prohibiting sexual and marital relations between Jews and “Aryans,” and requiring couples to have premarital medical examinations, to prevent the transmission of “racially damaging diseases” [14].

The involvement of members of the medical profession in implementing those laws was essential. Some authors postulate that the Nuremberg Laws served to make the general medical community firmly as the instrument of racist policies of the Nazi government. After introducing these laws, the incomes of German doctors were increased considerably, resulting in relaxing ethical principles in medical practice [21]. To note, up to 45% of German doctors were members of the Nazi party at a certain point in the Third Reich [17], and many of them were psychiatrists [23].

### **Step 4. Action 4, the euthanasia as a prelude to the Holocaust**

With the Nuremberg Laws in place and war being imminent (a war which would necessitate to free-up of thousands of hospital beds for wounded soldiers), Hitler signed, on September 1, 1939, a decree effective on the same day, the official date

of the outbreak of WWII. This document specified that “incurable patients, after a critical assessment of the state of their illness, were permitted a euthanasic death” [11]. To note, the mentally ill were considered, even in scientific texts of that period, as inferior beings (*minderwertig*), even being referred to in some medical circles as “empty human shells” (*leere Menschenhülsen*) or “lives that are not worth living” (*lebensunwertes Leben*) [25-26].

This decree constituted the basis of the Euthanasia Program (*Gnadentod*, “mercy death”), popularly known as Operation T4 or Action T4, due to the location of its administrative office at number 4 Tiergartenstraße in Berlin [[www.death-camps.org/euthanasia/](http://www.death-camps.org/euthanasia/), 15, 17, 22, 27], and led to the mass extermination of patients with “deficiencies” or mental pathologies [28]. Hitler commissioned the organization of the Action T4 to Karl Brandt (1904-1948), his personal physician and professor of psychiatry at Würzburg University, and several prestigious psychiatrists were appointed as advisers [5]. Similarly, and even before introducing this program, German doctors were obliged to report “malformed neonates” or “idiots.” Thus, children under age three years thus categorized (and later those under 16) were assembled in 21 specialized sections or departments, distributed throughout the Reich, for the purpose of their elimination [17, 20, 31]. According to Steinberg’s report at Leipzig University ([www.uni-leipzig.de/-psy/eng/geschi-e.htm](http://www.uni-leipzig.de/-psy/eng/geschi-e.htm)), about 5,000 children were murdered up to 1945 in this way.

The *modus operandi* of Action T4 fitted with the sinister bureaucratic organization of Nazi Germany. Subjects targeted by this Operation were examined to reveal their abilities, and a report was drawn up on each of them. They were then transferred to the T4 services, where they were to be subjected to “special treatment.” Many

mentally ill people were killed at one of the six regional extermination centers (Brandenburg, Bernburg, Hartheim, Grafeneck, Sonnenstein, and Hadamar) throughout the Reich [22, 27, 28, 30]. The execution took place using the inhaling of carbon monoxide, the method tested by Brandt at the Brandenburg Psychiatric Hospital, in rooms camouflaged as laundry rooms or showers. The dead bodies were then rapidly incinerated in crematory ovens.

Action T4 was later extended to cover a wider spectrum of subjects unfit for the society. Included were people with a threat to society, with links to criminality, with antisocial behavior [14]; and finally were those who were prostitutes, common criminals, wanderers or drifters, and homosexuals [15]. The program was expanded to include prisoners in concentration camps and in occupied countries (Operation 14f13). In total, Operation T4, at the heart of which were medical personnel, being responsible for the deaths of an estimated 200,000 psychiatric patients, concentration camp prisoners who became ill, patients with major depression and political dissidents [5, 11, 18, 23, 27, 31]. This practice served as the model for implementing subsequent so-called “Final Solution” to the Jewish question, although the enormous numbers of victims planned in this case required the use of more efficient killing agents than carbon monoxide, such as Zyklon-B gas [13, 20, [www.deathcamps.org/euthanasia/](http://www.deathcamps.org/euthanasia/)].

In August 1941, two years later, Action T4 was suspended, due to popular protests and to the concentrated effort and resources on the war against the Soviet Union. But this suspension did not mean the end of the murders, which were continued in a more covert fashion, using less violent methods. Those methods included reducing food rations to a minimum to cause the death of patients through malnutrition, or turning off the

heating in hospitals in winter [22, 27, 28, 32]. Such procedures carried out in the “healthcare” institutions themselves, have been described as “wild euthanasia.” In some institutions, non-psychiatrist doctors, psychiatrists, and nurses hastened the patients’ deaths with the long-term use of low doses of barbiturates, leading to terminal pneumonia [32]. What’s more, exterminations were carried out less discreetly, using the lethal injection of drugs, such as opiates and scopolamine [33].

#### ***Step 5. Nonethical experiments with patients concerned with the euthanasia programs***

Despite the implication of the medical community in the sterilization and euthanasia programs, the most worrying expression of the link between doctors and the Nazis was the use of human beings as experimental and laboratory subjects, not only in death camps, but also in hospitals and universities themselves [34]. Candidates recruited as victims for such atrocities were Jews, gypsies, Slavs, homosexuals, as well as the physically and mentally disabled. Some of those responsible for those activities justified them in the following way: “If the sick have to die anyway, as a result of the expert assessment of one of my colleagues, why not make use of them while alive or after their execution for research?”

Two extensive research projects existed on diverse forms of patients with mental retardation and epilepsy under the direction of Carl Schneider (1891-1946, the chair of department of psychiatry at Heidelberg) and Hans Heinze (1895-1983, director of the Görden/Brandenburg Psychiatric Hospital), although in the latter case historians disagree on how far the study was actually progressed. Those projects involved the assessment and exhaustive long-term study of living patients

from both the neuropsychological and physiological perspectives, and the completion of the research through the anatomopathological examination of their brains, after the subjects’ death in the euthanasia program at one of those specialized institutions mentioned [33].

In a third case, Julius Hallervorden (1882-1965), professor and deputy director of the *Kaiser-Wilhelm Institut für Hirnforschung* (Institute for Brain Research) in Berlin-Buch, had personally visited one of the euthanasia centers (at the Brandenburg prison, next to Görden Hospital) to coordinate the extraction of brains in patients recently executed. He knew the patients’ diagnoses before their execution, he could choose the brains that were most interesting for his research [26, 31]. Hallervorden was even invited to Berlin to become the psychiatrist responsible for the extermination center to work with him for a period of time at his Institute, also sending one of his assistants to the killing center to speed up the preparation of the samples [35]. In the document catalogued as L-170, a part of the evidence against the Nazi doctors at Nuremberg “Dr. Hallervorden had obtained 500 brains from the killing centers for the insane. Those patients had been killed in various institutions with carbon monoxide gas.” In his testimony, Hallervorden remarked that “there was wonderful material among those brains, beautiful mental defectives, mal-formations, and early infantile diseases.” But in line with the view habitually expressed by many German medical professionals, he added “Where they came from and how they came to me was really none of my business” ([www.law.harvard.edu/library/collections/digital/war\\_crime\\_trials\\_nuremberg.php](http://www.law.harvard.edu/library/collections/digital/war_crime_trials_nuremberg.php)).

Fortunately, many projects had to be suspended in the wake of the German defeat at Stalingrad. Many doctors participating in them were called up by the military for combat duties.

But that many German doctors had shown a dereliction of duty to their patients and renounced the ethical principles inherent to the practice of their profession, is clear.

### **Step 6. Experimentations with psychotropic agents on healthy prisoners**

During the Nazi regime, the research subjects who were ill or who had mental disorders, did not have any informed consent. But most violated ethical principle is the use of healthy subjects from concentration camps for human experiments in neuropsychopharmacology [33, 36]. Concentration camp prisoners were the main source of recruited subjects for pharmacological studies. Other sectors of the Nazi regime's health system playing a substantial rôle were principally the chemical and/or pharmaceutical industry. The industry staff were also linked to medical research in using subjects from the death camps, where they could test drugs practically freely [37]. For example, I.G. Farben (*Interessen-Gemeinschaft Farbenindustrie AG*) actually set up a subsidiary at the Auschwitz concentration camp (called IG Auschwitz Industries) [37]. Various pharmacological substances were tested. Those tested drugs included sulphonamide, arsenical derivatives, and other preparation composition (B-1012, B-1034, 3382 or rutenol, 3582 or acridine) is not precisely known [38]. Those tests were generally related to the treatment of infectious diseases, such as typhus, erysipelas, scarlet fever, or paratyphoid diarrhoea. Death rates of experimental subjects were extremely high.

Among those responsible for these pharmacological projects were ex-IG Farben scientists, such as Medical Commander of the *Schutzstaffel* (SS) Helmuth Vetter (1910-1949), and the death camp doctors, including the infamous Joseph Mengele (1911-1979) [25]. Although the ideology

of most medical experiments in the camps was different, the man with most responsibility was Joachim Mrugowsky (1905-1948), colonel-director of the *Waffen SS* Central Institute for Hygiene and associate professor at Berlin University. At the Buchenwald camp, the psychopharmacology studies [33, 36, 38] were on the effects of combined administration of metamphetamine (Pervitin®) [41] and phenobarbital (Luminal®) [40] as well as the anaesthetic properties of sodium hexobarbital and chloral hydrate in surgery on healthy subjects [41], and the lethal injections of aconitine and apomorphine [25]. At Dachau concentration camp, Sigmund Rascher (1909-1945) was the chief medical officer, giving mescaline to assess the hidden schizophrenic behavior of inmates or to actually induce it [42]. At the Auschwitz-Birkenau camp, the psychiatrist Hans-Wilhelm König (1912-d), studied the effects of high-voltage electric shocks in schizoid patients and healthy prisoners. After their death, the brains were removed for anatomopathological study [25]. Also at Auschwitz, the psychiatrist Bruno Weber (1915-1956), director of the Institute of Hygiene at Auschwitz, former employee (like Vetter) of I.G. Farben, working with Victor Capesius (1907-1985), director of the SS's Pharmacy Services, studied "brain-washing" with pharmacological agents (barbiturates and morphine derivatives) on Polish and Russian prisoners, resulting in high mortality rates [25]. A similar research was carried out at the Dachau camp, giving high doses of mescaline, according to a report by the US Army Technical Mission [25, 43].

The level of amorality and ethical degradation of the medical community during the Nazi time is reflected in a letter found among the files at Auschwitz, showing the correspondence between the camp commandant and certain department

staff of I.G. Farben. The chemical company staff were applying to purchase prisoners for research on a hypnotic drug: "We need some 150 women in the best possible state of health... We acknowledge your affirmative reply, but consider the price of 200 marks per woman was too high. We propose paying no more than 170 marks per woman... The experiments were carried out. All of these persons died. We need a new delivery as soon as possible..." [44].

After all, the real contributions to medical scientific progress from the all those criminal research programs by the State were practically non-existing. In the words of Leo T. Alexander (1905-1985), one of the American medical consultants for the prosecution at Nuremberg, and inspirer of the Nuremberg Code: "the result was a significant advance in the science of murder, or ktenology" [13].

### ***Step 7. The use of psychopharmacological agents as tools of murder***

The most possible ethical violation in human experiment was using psychopharmacological agents as tools for murdering healthy and innocent people, especially when it involved child subjects [33]. Examples of such atrocities also existed in the darkest chapters of the medical history of the Third Reich. The trial after WWII by the Allies recorded the crimes of SS officer Josef Mengele ("the Angel of Death"), a senior doctor at the Auschwitz concentration camp. Miklos Nyiszli (1901-1956), one of the prisoners was forced to assist him, described how Mengele himself murdered 14 twins of gypsy race, and the procedure used: "...In the room adjacent to the dissection room, 14 gypsy twins were waiting, giving out some terrible screams. Without a single word, Mengele prepared 10 ml and 5 ml syringes for each one of them. From one box he took Evipal®

and from another chloroform, which was stored in glass containers of 20 ml, and laid everything out on the surgical instrument table. On bringing in the first twin, a 14-year-old girl, he ordered me to take off her clothes and lay her on the dissection table. He then gave an intravenous injection of Evipal® in the girl's right arm, and when she became drowsy he marked the left ventricle of the heart and injected it with 10 ml of chloroform. After a slight contraction, the girl died, and Mengele moved the body to the mortuary. In this way, all 14 twins were murdered in the course of the night [45]." According to Nyiszli's account, Mengele had already used this method at Auschwitz to murder four pairs of twins, all under the age of 10 years, as part of his genetic research, with hexobarbital (Evipan® or Evipal®), a barbiturate with ultra-rapid action.

Another documented example of those types of practice took place at the Buchenwald death camp. Waldemar Hoven (1903-1948), a medical director, murdered an indeterminate number of Soviet prisoners with aconitine [13], the main alkaloid of plants of the genus *Aconitum*. This highly toxic substance can open the sodium channels of the nerve and muscle cells, leading rapidly to respiratory paralysis and cardiac arrest. For his involvement in those events, Hoven was tried after WWII and hanged in 1948.

## **The Nuremberg Trials and the Nuremberg Code**

Between 1945 and 1949 after WWII, a series of the so-called Nuremberg Trials took place in Nuremberg, Germany. Former Nazi leaders were charged and tried as war criminals by an international military tribunal, that were made up of judges from the four Allied nations: the United States, Britain, France, and the Soviet Union [46-

48]. At one of those trials, 20 doctors and 3 collaborators were charged with “crimes against humanity” (United States of America vs. Karl Brandt, *et al.*). The court sentenced 7 of them to death, giving prison sentences to another 9, and acquitting the remaining 7.

In response to the atrocities committed by Nazi doctors, scientists in the field of human research, revealed in the course of the Nuremberg war crimes trials. The Nuremberg Code was published in August 1947. This Code, which was designed to prevent any repeated tragedy resulting from barbarian attacks on human rights and human well-being, is the first international code for research with human beings. This is based on the Hippocratic precept of *primum non nocere* (“first, do no harm”). It laid down norms for experiments on human subjects, with special emphasis on the need to obtain the person’s informed consent, which has since been considered the cornerstone of protecting patients’ rights [49]. Those responsible for drawing up the Code were two American doctors who participated as advisors to the Tribunal in the trial of the Nazi doctors: the psychiatrist Leo T. Alexander and the physiologist Andrew C. Ivy (1893-1978) [48, 50]. The Nuremberg Code has a declaration of 10 principles, focusing basically on protecting the rights of persons participating in medical experiments (Table 2) [50, 51]. The Code is thus managed to combine the Hippocratic ethics and the protection of patients’ rights in a single document, which requires that clinicians and researchers protect patients’ interests, and that subjects themselves also participate actively in their own protection.

Although the Nuremberg Code has not been formally adopted as a legal norm by any nation or medical association, it has had a profound influence in the area of human rights and bioethics, since its basic requirement, informed consent, has

been accepted worldwide, is enshrined within numerous international laws relating to human rights, and constitutes the basis of the 1982 International Ethical Guidelines for Biomedical Research Involving Human Subjects [49, 52]. Nowadays, the Nuremberg Code has been adopted a basic principle by most, if not all, ethic committees for human research or the institutional review boards, to protect the rights of human subjects participating in medical experiments.

### **From the Nuremberg Code to the Declaration of Madrid**

In the 1970s, the World Psychiatric Association (WPA) noticed that no specific texts existed at that time for ethical procedures in the practice of psychiatry, in any of its applications. The most acute problems identified by psychiatric community were political abuse, and improper application of psychiatry and its tools in countries such as the former Soviet Union, Rumania, and South Africa, because of their being well-known to the international public in the early 1970s [53]. Thus, the WPA asked Swedish psychiatrist Clarence Blomquist (1925-1979), professor of medical ethics at the Karolinska Institut in Stockholm, to draft a declaration of ethical principles, which was finally adopted by the 1977 WPA General Assembly in Hawaii [54, 55]. The Declaration of Hawaii that became the first document produced by the psychiatric profession on ethical questions, was the first document in history specifically requiring that an investigator needs to obtain informed consent from a patient before their participating in human experiment.

As occurred with the Declaration of Helsinki in the case of general medicine, the Declaration of Hawaii was updated at successive meetings of the WPA General Assembly, and new ethical princi-

**Table 2. Ethical principles of the Nuremberg Code**

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1. The voluntary consent of the human subject is absolutely essential.
  2. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.
  3. The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.
  4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.
  5. No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects.
  6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.
  7. Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury, disability, or death.
  8. The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.
  9. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seemed to him to be impossible.
  10. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probably [sic] cause to believe, in the exercise of the good faith, superior skill and careful judgment required of him that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.
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ples – such as those of the Belmont Report – were incorporated. Psychiatrists' relationship with the mentally ill, should be guided always by respect for patients, as well as prioritizing their well-being and physical integrity. In this direction that the WPA approved at its 1996 General Assembly, a set of ethical guidelines that formed the basis of the Declaration of Madrid. Likewise, the ethics committee of the WPA created a series of norms for specific situations, which were approved at the World Psychiatry Congress in Madrid on August 25, 1996, and referred to aspects such as euthanasia, torture, and the death penalty [7]. The Declaration of Madrid has been successively revised at subsequent WPA Congress sites at Hamburg (1999), Yokohama (2002), Cairo (2005),

and Buenos Aires (2011), incorporating a special section on protecting the rights of psychiatrists against the pressure exerted on them by totalitarian regimes to obtain political benefits. Currently, all psychiatry associations with full membership of the WPA have endorsed the Declaration of Madrid [49, 53, 55].

## **Conclusion**

Despite the achievements of the second half of the 20th century in ethical legislation in psychiatry and the use of psychopharmacological agents, improper governmental uses of psychiatry, and abuses of vulnerable groups continue to be reported in numerous countries. Human rights or-

ganizations and scientific and professional bodies, such as the WPA, have denounced those situations. For example, it is sufficient to mention religious repression in China, enforced hospitalization in Russia, administration of psychoactive drugs in immigrant detention centers in Australia, or the application of the death penalty by lethal injection in the US [4, 56]. Another instances are recent abuses of psychiatry in the context of “the war on terror” and allegations of torture at Guantanamo Bay and Abu Ghraib, and participations by psychologists or psychiatrists in coercive interrogations. Moreover, these departures from ordinary clinical ethics have been underwritten by the statements from national professional organizations, such as the American Psychological Association and the American Psychiatric Association, a development which has been decried by various commentators [57].

### ***How and why did psychiatrists participate in committing those crimes against humanity in the Nazi Germany?***

Understanding the context and reasons for such practices is important, since change has to occur in the detention context and in the professional response [48]. In the case of Nazi doctors and psychiatrists, the medical killing of psychiatric patients was an open secret at that time. In any case, we need to ponder the motives and circumstances that led to the abuses described in this overview, although this is *a priori* a rather difficult question to tackle [58, 59]. In the atmosphere of generalized enthusiasm in the early years of the Third Reich, the doctors involved in applying eugenicist laws, and those who passively accepted them, argued that the norms were conceived for the benefit of the nation (*Volksgesundheit*) and not for the patients, if they were to leave a legacy of health for the coming generations [16,19], imply-

ing the invocation of such deceptive and coercive concepts as *cause majeure* or “sacred mission” [23, 25].

Many other types of motivation in the members of the medical and scientific community for participating directly in the tremendous abuses committed during the Nazi regime: some believed that everything was justified in the name of science, including the inhuman experiments carried out during the WW II in the concentration camps [60]. Others simply saw themselves as patriots, and justified their behavior as acts of war; many became feverishly imbued with the deviated Nazi philosophy, while still others, more driven by ambition, became involved in such activities with a view to promote their professional and academic careers. Finally, to uncouple oneself completely from the sinister Nazi machinery could become quite difficult for the medical community [27], especially in an atmosphere in which fear was an essential tool of social pressure. Psychiatrists who shared this ideology, were state-controlled, and tended to sacrifice patients [23].

### ***What we can learn to safe-guard human rights?***

To avoid continued governmental abuse in those fields, a range of strategies is needed. The strategies include to update and to publicize international pacts, agreements, and treaties as well as to do continuing education for doctors and mental health professionals at both undergraduate and postgraduate levels [57]. To be closely vigilant on the part of human rights organizations is also important. Psychiatrists and mental health professionals need to act as advocates for the civil rights of citizens, and to honor treaty obligations to vulnerable non-citizens who have already been victims or been exposed to systematic human rights violations (for example, refugees) [4].

Stepping out the shadow of Nuremberg, the ethical precepts set out exactly half a century later in the Declaration of Madrid are a giant step forward: "Psychiatrists shall not take part in any process of mental or physical torture, even when authorities attempt to force their involvement in such acts. Under no circumstances should psychiatrists participate in legally authorized executions nor participate in assessments of competency to be executed... In relation to euthanasia, the psychiatrist should be particularly careful of actions that could lead to the death of those who cannot protect themselves because of their disability" [7]. The Declaration of Madrid should be considered as a sentinel to safe-guard against any backsliding into practices that have brought such shame on the medical and psychiatric professions. The question is whether we can learn the lessons that, for example, were tried in Nuremberg Trials.

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### References

1. Bloch S, Chodoff P, Green SA: Introduction. In: Bloch S, Chodoff P, Green SA, eds.: *Psychiatric Ethics*, 3rd Edition. Oxford: Oxford University Press, 1999: 1-5.
2. Vollman J, Winau R: Informed consent in human experimentation before the Nuremberg code. *Br Med J* 1996; 313: 1445-7.
3. Birley JLT: Political abuse of psychiatry. *Acta Psychiatr Scand* 2000; 399: 13-5.
4. López-Muñoz F, Alamo C, Dudley M, et al.: Psychiatry and political-institutional abuse from the historical perspective: The ethical lessons of the Nuremberg Trial on their 60th anniversary. *Progr Neuro-Psychopharmacol Biol Psychiatry* 2007; 31: 791-806.
5. Lindert J, Stein Y, Guggenheim H, Jaakkola JJK, von Cranach M, Strous RD: How ethics failed – the role of psychiatrists and physicians in Nazi programs from exclusion to extermination, 1933-1945. *Public Health Rev* 2013; 34: 96-117.
6. World Medical Association: Declaración de Hawaii. Revisión de Viena de 1983. *Actas Luso-Esp Neurol Psiquiatr* 1984; 16: 361-3.
7. World Psychiatric Association: *Declaration of Madrid*. Madrid: X World Congress of Psychiatry, 1996.
8. Huertas R: El saber psiquiátrico en la segunda mitad del siglo XIX: la somatización de la enfermedad mental. *Historia* 16 1993; 211: 66-73.
9. López-Muñoz F, Boya J, Alamo C: Neuron theory, the cornerstone of neuroscience, on the centenary of the Nobel Prize award to Santiago Ramón y Cajal. *Brain Res Bull* 2006; 70: 391-405.
10. Shorter E: *A History of Psychiatry. From the Era of the Asylum to the Age of Prozac*. New York: John Wiley & Son Inc., 1997.
11. Peters UH: Un siglo de psiquiatría alemana. *Rev Neuro-Psiquiatr* 2004; 3-4: 127-62.
12. Rüdín E: *Studien über die Vererbung und Entstehung geistiger Störungen: II. Zur Vererbung und Neuentstehung der Dementia paecox*. Berlin: J. Springer, 1916.
13. Alexander L: Medical science under dictatorship. *New Engl J Med* 1949; 241: 39-47.
14. Proctor RN: *Racial hygiene: Medicine under the Nazis*. Cambridge: Harvard University Press, 1988.
15. Aly G, Chroust P, Pross C: *Cleansing the Fatherland: Nazi Medicine and Racial Hygiene*. Baltimore: The Johns Hopkins University Press, 1994.
16. Biéder J: German social psychiatry in 1934. *Ann Med Psychol (Paris)* 1996; 154: 147-51.
17. Seeman MV: Psychiatry in the Nazi Era. *Can J Psychiatr* 2005; 50: 218-25.
18. Torrey EF, Yolken RH: *Psychiatric Genocide: Nazi*

- Attempts to Eradicate Schizophrenia. *Schizophr Bull* 2010; 36: 26-32.
19. Bachrach S: In the name of public health - Nazi Racial Hygiene. *New Engl J Med* 2004; 351: 417-9.
  20. Pichot P: *Un siglo de Psiquiatría*. Paris: Roger Dacosta, 1983.
  21. Hanauske-Abel HM: Not a slippery slope or sudden subversion: German medicine and National Socialism in 1933. *Br Med J* 1996; 313: 1453-63.
  22. Meusch M: Hadamar: a German psychiatric treatment center in WWII. *Biomol Engineer* 2001; 17: 65-9.
  23. Dudley M, Gale F: Psychiatrist as a moral community? psychiatry under the Nazis and its contemporary relevance. *Aust NZ J Psychiatr* 2002; 36: 585-94.
  24. Singer L: Ideology and ethics: the perversion of German psychiatrists' ethics by the ideology of National Socialism. *Eur Psychiatr* 1998; 13 (Suppl 3): S87-S92.
  25. Lifton R: *The Nazi Doctors: Medical Killing and the Psychology of Genocide*. New York: Basic Books, 1986.
  26. Friedlander H: *The Origins of Nazi Genocide: from Euthanasia to the Final Solution*. Chapel Hill: University of North Carolina Press, 1995.
  27. Benedict S: The medicalization of murder. the "euthanasia" programs. In: Benedict S, Shields L, eds.: *Nurses and Midwives in Nazi Germany: The "Euthanasia Programs."* New York: Routledge, 2014: 71-104.
  28. Strous ED: Nazi euthanasia of the mentally ill at hadamar. *Am J Psychiatr* 2006; 163: 27.
  29. Benedict S, Shields L, O'Donnell AJ: Children's "euthanasia" in Nazi Germany. *J Pediatr Nurs* 2009; 24: 506-16.
  30. Fischer BA: Maltreatment of people with serious mental illness in the early 20th century: a focus on Nazi Germany and eugenics in America. *J Nerv Ment Dis* 2012; 200: 1096-110.
  31. Gallagher HG: *By Trust Betrayed: Patients, Physicians and the Licence to Kill in the Third Reich*. Revised edition. Arlington: Vandermere, 1990.
  32. Madden JS: Euthanasia in Nazi Germany. *Psychiatr Bull* 2000; 24: 347.
  33. López-Muñoz F, Álamo C, García-García P, Molina JD, Rubio G: The role of psychopharmacology in the medical abuses of the Third Reich: from euthanasia programmes to human experimentation. *Brain Res Bull* 2008; 77: 388-403.
  34. Weyers W: *Death of Medicine in Nazi Germany: Dermatology and Dermatopathology under the Swastika*. Philadelphia: Ardor Scribendi Ltd., 1998.
  35. Moreno JD: *Undue Risk: Secret State Experiments on Humans*. New York: W.H. Freeman and Company, 2000.
  36. López-Muñoz F: *Panacea Encadenada: la Farmacología alemana bajo el Yugo de la Esvástica*. Colección Reial Acadèmia de Doctors, vol. 28. Barcelona: Reial Academia de Doctors, 2015.
  37. Borkin J: *The Crime and Punishment of I.G. Farben*. New York: Free Press, 1978.
  38. López-Muñoz F, García-García P, Álamo C: The pharmaceutical industry and the German National Socialist regime: I.G. Farben and pharmacological research. *J Clin Pharm Ther* 2009; 34: 67-77.
  39. Snelders S, Pieters T: Speed in the Third Reich: metamphetamine (Pervitin) use and a drug history from below. *Soc Hist Med* 2011; 24: 686-99.
  40. Sofsky W: *The Order of Terror: The Concentration Camp*. Princeton: Princeton University Press, 1997.
  41. Hackett DA: *The Buchenwald Report*. San Francisco: Westview Press, 1995.
  42. Klee E: *Auschwitz, die NS-Medizin und ihre Opfer*. Frankfurt: Fischer (S), 1997.
  43. Lee M, Shlain B: *Acid Dreams: the Complete Social History of LSD: The CIA, the Sixties, and Beyond*. New York: Grove Press, 1985.
  44. *Coordination gegen Bayer-Gefahren: IG-Farben; Von Anilin bis Zwangsarbeit*, Stuttgart: Schmetterling Verlag, 1995.
  45. Annas GJ: Mengele's birthmark: The Nuremberg Code in United States Courts. *J Contemp Health Law Policy* 1991; 7: 17-45.
  46. Mitscherlich A, Mielke F: *Doctors of Infamy: The Story of the Nazi Medical Crimes*. New York:

- Schuman, 1949.
47. Geiderman JM: Physician complicity in the Holocaust: historical review and reflections on emergency medicine in the 21st century. Part II. *Acad Emerg Med* 2002; 9: 232-40.
  48. Craig AL, Desai SP: Human medical experimentation with extreme prejudice: lessons from the Doctors' Trial at Nuremberg. *J Anesth Hist* 2015; 1: 64-9.
  49. López-Muñoz F, Guerra JA, García-García P, Martín-Águeda B, Álamo C: Ethics in psychiatric research and its relation with psychotropic drugs: from the Nuremberg Code to the Madrid Declaration. In: López-Muñoz F, Álamo C, Domino EF, eds.: *History of Psychopharmacology. Volume 3: The Consolidation of Psychopharmacology as a Scientific Discipline: Ethical-Legal Aspects and Future Prospects*. Arlington, Virginia, USA: NPP Books, 2014: 79-107.
  50. Shuster E: Fifty years later: the significance of the Nuremberg Code. *N Engl J Med* 1997; 337: 1436-40.
  51. Annas GJ, Grodin MA: *The Nazi Doctors and the Nuremberg Code*. New York: Oxford University Press, 1992.
  52. Grodin MA, Annas GJ: Legacies of Nuremberg: medical ethics and human rights. *JAMA* 1996; 276: 1682-3.
  53. Helmchen H, Okasha A: From the Hawaii Declaration to the Declaration of Madrid. *Acta Psychiatr Scand* 2000; 101: 20-3.
  54. Ottoson JO: The Declaration of Hawaii and Clarence Blomquist. *Acta Psychiatr Scand Suppl* 2000; 399: 16-9.
  55. Okasha A: The Declaration of Madrid and its implementation. An update. *World Psychiatr* 2003; 2: 2.
  56. Luty J: Psychiatry and the dark side: eugenics, Nazi and Soviet psychiatry. *Adv Psychiatr Treat* 2014; 20: 52-60.
  57. Wilks M: A stain on medical ethics. *Lancet* 2005; 366: 429-31.
  58. López-Muñoz F, Álamo C: Psychotropic drugs research in Nazi Germany: the triumph of the principle of malfeasance. *Acta Neuropsychiatrica* 2009; 21: 50-3.
  59. Haque OS, De Freitas J, Viani I, Niederschulte B, Bursztajn HJ: Why did so many German doctors join the Nazi Party early? *Int J Law Psychiatr* 2012; 35: 473-9.
  60. Hunter E: The snake on the Caduceus: dimensions of medical and psychiatric responsibility in the Third Reich. *Austral NZ J Psychiatry* 1993; 27: 149-56.