

Biological Science under a Totalitarian Regime: The Case of the Third Reich

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Abstract: *The pursuit of scientific knowledge and discovery is often presumed to be a neutral and apolitical endeavour. However, the darker chapters of History reveal a more complex reality. Under the Third Reich of Hitler, the biological scientists were co-opted to serve the sinister goals of the Nazi State. Scientists and Researchers, often driven by ambition and Nationalism, became complicit in the perpetuation of heinous crimes against humanity. This essay delves into the chilling tale of how biological science was perverted to justify the atrocities of the Third Reich, serving as a stark reminder of the dangers of science unhinged from ethics, morality and humanity.*

Keywords: Volk, Lebensraum, Nazi, Luddism, Racial Hygiene, Eugenics, Genetic Health Courts, 'Lives not worth living', Weimar Republic.

Introduction

Hitler rose to power in 1933 during a parliamentary crisis. He had the assistance of conservative officials and right-wing military men who assumed they could control him to serve their ends. Quickly, they learned that they were mistaken. The National Socialist German Workers' Party used legal, illegal, and murderous tactics to destroy political opposition. Those who read Hitler's confessional autobiography, *Mein Kampf (My Struggle)*, knew quite well that he intended Volkisch notions of racial purity and Aryan Science to play a role in the Third Reich. The Nazi leader viewed society not merely resembling, but rather as effectively constituting, a biological organism. Within it, so he believed, the healthier elements were constantly struggling against others which threatened to produce the triumph of degeneration. Thus, he liked to link the scientific achievements of Pasteur and Koch with his own political endeavours, in which biology and medicine must now be harnessed to the cause of preserving and enhancing Aryan supremacy.

Hitler aspired to construct a quintessentially racial state. His creed progressed rapidly from the identification of differences between stocks to an assertion of their fundamental inequality. Moreover, as evidenced by the vocabulary of abuse running through *Mein Kampf* (Hitler, 1972), the doctrine not merely depersonalised its victims, but carried the threat of their total dehumanisation as well. Racism aspired to present all political and cultural phenomena in *essentially* biological terms, and to make the purest statement of linkage between physical being and a wholeness of civilizational capacity. Granted, such a focus on the body, we can hardly be surprised to find physicians lending a crucial authority to discourse about Racial Inequalities (Weindling, 1984).

Defining Volk and Third Reich on Technological Prowess

The natural unit of Mankind in the German Reich was the ‘Volk’, a romanticised vision of the German peasant who, through organic ties to the soil, embodied the great German mission of constructing a worldwide civilisation. It was an anti-Semitic and anti-Slavic concept that was originally aimed at maintaining the German people in rural areas and preventing Polish immigrants from working on East German farms. Later it was adopted by Heinrich Himmler and the SS and implied the solving of the Jewish question, i.e. the murder of all European Jews and the expulsion of millions of Eastern Europeans from their homes. The ideology of leading Nazi party thinkers like Alfred Rosenberg and Walter Darre was strongly influenced by the Volkisch movement, which, in the wake of the writings of philosopher Johann Gottlieb Fichte¹ and other 19th-century authors, promoted the idea of Volk as an organic unity.

In 1934, Hitler declared himself not only chancellor but ‘leader’. This meant he claimed not only constitutional powers but extra-governmental powers, which required his followers to declare their allegiance to him. He expressed the true will of the *Volk*, so that any opposition or criticism was precluded. No interests, groups or ideas existed alongside him: ‘In place of conflicts and compromise, there was to be only the absolute enemy on whom the sights of the unified nation were fixed’ (Bracher, 1970: 340-44). This was the ‘leader principle’ that operated in all Nazi institutions and drew strength from the traditions of monarchic authoritarianism in Germany. There was no question that Hitler intended the socially radical science of ‘racial hygiene’ to achieve Aryan purity. He fully endorsed putting homosexuals, Gypsies,

and Jews to death. He believed that the infirm (the sick, dying, and unfit) drained resources from the healthy and strong Aryan. German doctors and biologists willingly helped the Führer achieve this end. Hitler believed that Germany must find *Lebensraum* (literally, living space) in the east, lands that would be freed from inferior Jewish, Gypsy, Russian, and Polish inhabitants by the *Wehrmacht* (war machine), with the survivors enslaved to create an agricultural workforce to feed the German nation. German science assisted in meeting these goals through anthropological, geographical, and biological studies under the rubric of *Ostforschung* (research on the eastern lands).

In Germany, during the first years of Nazi rule, except for Jews and other minorities who were excluded from their professions by race laws, accommodation of science and engineering to National Socialism occurred as a natural part of the policy of coordination (*Gleichschaltung*) of all activities to Nazi principles of rule and discipline. Most scientists welcomed the strong nationalist state. The National Socialists did not deliberately set out to purge the scientific enterprise, only to remove Jews and other undesirables from their positions, an end accomplished automatically as part of the civil service rules of 1933. Such fields as eugenics and genetics neatly dovetailed with Aryan visions. Scientists in these fields quickly reached accommodation with the state (Renneberg and Walker, 1994: 9-10). While the Physics Society, the Kaiser Wilhelm Society, and similar institutions in Nazi Germany maintained a degree of autonomy, appointments were subject to racial laws and to the vagaries of National Socialist party politics and ministerial rivalries. The Nazi Teachers League and the Students League played a central role in ensuring that Nazi dogma was considered in all facets of research.

The purge of all Jewish scientists from German academia was based on laws and decrees, the most important being the law for the Restoration of the professional civil service of April 7, 1933. Jews were identified through the religious affiliation of their grandparents; the category 'Mischling' (half-breed) included people with one Jewish grandparent, which was sufficient for dismissal. It is one of the most notable phenomena in academia in 1933, that the expulsion of Jewish scientists was carried out under a high degree of silence and with the frequent consensus of their non-Jewish colleagues. Even though most Jews identified themselves with the German nation and culture, there were not only no public protests, but also hardly any private

ones or signs of compassion. This silence and lack of solidarity may be explained in terms of obedience to the law (the dismissals were ordered by law, and most German scientists were civil servants, i.e., obliged to obey the law), self-benefit (as most vacancies were quickly filled by younger staff, who were often members of Nazi organizations) and anti-Semitism (Deichmann, 1999). While established academic staff were not openly anti-Semitic before 1933 and in many cases Jewish scientists had friendly relationships with non-Jewish colleagues, a virulent anti-Semitism, prevalent among younger staff, and in particular among students, had been in evidence since the 1920s. It was the students and their organisations who were the carriers of the National Socialist revolution at universities. They identified Jewish graduate students whom professors had permitted to complete their Ph.D., or Jewish professors who, as former front-line soldiers, were permitted to stay in their position (until 1935), and campaigned for their dismissal. The rationales behind the anti-Jewish policies and the persecution of other people deemed not fit to the notion of a healthy German race, such as Gypsies and homosexuals, were embedded in the ideology of wholeness and an ultranationalism prevalent among leading Nazi party ideologues. They attempted to replace scientific internationalism, as the manifestation of past liberal and Jewish ways of thinking, with the nationalist ideology that science, too, was a product of blood, i.e., that German science was different from Jewish science.

A complex relationship developed between technical experts and National Socialist power. The question was how to reconcile the international and rational elements of technocracy with the demands of the ultra-nationalistic and often irrational Third Reich. German engineers had little political conscience and group identity, although they did have a national organisation, the Union of German Engineers (*Verein deutscher Ingenieure*). The Nazis used their propaganda machine to manipulate engineers to support them by appealing to their sense of service to the nation and their desire to contribute to a glorious future. It did not matter that the Nazis used thuggish tactics. For engineers, 'the opportunity to participate was honour enough' (Heinemann-Gruder, 1994: 32-33). By the summer of 1933, six months after Hitler had become chancellor, all of the larger professional engineering associations had joined the Nazi-controlled Reich Society for Technological and Scientific Work. Many 'Aryan' engineers believed they could prove the racial superiority of Germans and solve the crisis of bourgeois society as manifested in Weimar and the Depression. Aryan technology was anti-

Semitic and hostile to the natural sciences, especially the new physics, for being too theoretical. Good Nazi engineers were expected to work for the *Volk*, and hence the Führer as the historical embodiment of the *Volk*, but not to interfere in political and economic decision-making. Scientists and technologists in Nazi Germany, violated existing ethical principles and supported Nazi racist and imperialist aims in manifold ways, e.g., as plant-breeders, who pursued the breeding of crop varieties adapted to the conditions of the occupied territories in the East (i.e., Poland or the Soviet Union); psychiatrists who decided on murdering patients through euthanasia; anthropologists who drew up expert opinions of racial memberships in connection with the Nuremberg laws² often only based on photographs of possible fathers); chemists, who conducted war-related research, including on chemical warfare, and medical scientists who carried out often fatal experiments on concentration camp inmates to provide treatment or vaccination for soldiers.

In sum, scientists and engineers willingly worked for the Nazis in exchange for such privileges as job security, good wages, adequate research budgets, exemption from military service, and the ability to serve the 'nation', if not the Nazi Party. They have been willing to help the state achieve its irrational and un-technocratic goals and policies (Ibid: 32-40).

Were National Socialism were a consistent ideology, we would expect efforts to create an agrarian society in which the '*Volk*' could best prosper. But the Nazi rise to power did not give way to rural nostalgia or to an anti-modernist technological ethos that supported the peasant's organic tie to the soil. Rather, Nazism combined anti-Semitism and the embrace of modern technology in a myth, according to which technological advance grew out of a racial battle between Aryan and Jew, blood and gold. The engineer would assist the regime in destroying an unhealthy urban atmosphere, liberating the nation from the 'fetters of Jewish materialism'. Like the Soviet, Nazi technology embodied service to the nation, not the pursuit of profit. Service to the nation meant joining with the state to achieve economic independence. State trade, tariff, tax, price, and wage policies would help to underwrite technological development to achieve autarky and enable the nation to engage in war when cut off from the import of raw materials (Herf, 1984: 189-93). For Hitler himself, there was no Volkisch rejection of technology. If in life and politics the strongest won, so among nations, the technologically weak would be defeated. Hitler advocated rearmament and, like Stalin, national

autarky. He used new media such as radio and film to praise Volkisch technology for propaganda ends and sponsored modern highways – the Auto-bahn – and other modern artefacts for economic and military ends (Ibid: 194-96). And when the war effort bogged down, Hitler hoped for a technological saviour in the form of a new super weapon like the V-2 rocket.

National Socialist ideology was ambivalent about modern technology. On the one hand, technology was central to efforts to rearm Germany and to secure the new empire's glorious future. The super weapons, its army leaders sought during the war required the input of technological experts. Its four-year plan, adopted on the eve of World War II to prepare the economy for the *Blitzkrieg*, was an agglomeration of macroeconomic techniques and state-supported projects geared to produce a great industrial power. Many engineers welcomed the strong central government of the National Socialists for its ability to support modern technology more efficiently than the Weimar regime, which had been plagued by an inexperienced liberal parliamentary government and the chaos of the free market. In 1914, imperial Germany had been the leading scientific and industrial nation in the world. Its engineers saw the new chemical weapons and aeroplanes of World War I as signifying the glories that might be achieved by wedding technical knowledge to a strong state power. But as the Great Depression of the early 1930s set in, the political parties on the extremes grew, with the Nazis being the ultimate beneficiaries. Throughout the period, the conservatives blamed the lost war, the unfavourable terms of the Versailles treaty, and economic instability on Jews and liberals. They viewed cosmopolitan mass culture as decadent and attacked political liberalism as 'Bolshevist' (ibid: 18-22). The engineers among them saw the Left as promoting technological stagnation through their fear of rearmament and criticised liberal political and social programs for promoting 'cultural Luddism'; this meant they believed the liberals would destroy Volkisch culture as the anti-industrial Luddites of early nineteenth-century England had smashed machines to bits. National Socialism gave them hope of fulfilling self-interest and state service, unleashing technology from the bonds imposed by the Weimar Republic. Engineers eventually talked themselves into believing that the Nazis had abandoned the anti-industrial themes of Volkisch thought (Ibid: 152-62).

Racial Hygiene – From Ideas to Practice

One of the most striking ideas advanced by Charles Darwin in his *On the Origin of Species by Means of Natural Selection* (1859) was that of the struggle for survival. The term *survival of the fittest* was further popularised by English social scientist and philosopher Herbert Spencer. Arthur de Gobineau³ readily conflated linguistic families with racial types to conclude that mixing of races led to degeneration, gradually decreasing the quality of blood. In his pioneering *Essay on the Inequality of the Human Race* (1853–55), Gobineau cast race as the primary moving force of world history. The word *eugenics*, coined by the British statistician Francis Galton in 1883, denoted selective breeding both for promoting favoured characteristics and for eradicating features deemed harmful. Eugenics effectively merged Anthropology, Darwinism, and Medicine into something German scientists later termed ‘racial and social biology’. The German eugenics movement emerged in the late nineteenth century in response to the supposed “degeneration of the human species”. The German term *Rassehygiene* (racial hygiene) had a broader scope than the English word eugenics and loosely meant the hereditary improvement of a population (Weiss-Wendt & Yeomans, 2013: 5). Schallmayer was the first German scholar to publish a treatise on eugenics in 1891. Schallmayer introduced the cost-benefit analysis theory, which later came to dominate the race hygiene movement. He saw a direct correlation between the biological vitality of the nation and the scope of state power. Neglect of the hereditary fitness of the population would, allegedly, hurt politics and could eventually result in the downfall of the state, according to Schallmayer. German zoologist Friedrich Ratzel interpreted Darwin’s theory of evolution as the violent struggle between species for territory. The book that he published in 1904 referred to it as *Lebensraum* (Ibid).

Typically, racial scientists came from the medical profession, traditionally seen as the guardian of the health of the nation. In the late nineteenth century, academic physicians received much social esteem and, by extension, political importance. All but a few German eugenicists accepted the superiority of the white race, but so did most of their colleagues abroad. Their ideas of increasing the number of Germany’s ‘fitter’ elements and eliminating the masses of the ‘unfit’ were not dissimilar to those of other Western eugenics movements. Hitler’s seizure of power, however, instantly placed them in the service of the Third Reich. Eventually, over 90 per cent of German anthropologists and eugenicists joined the Nazi Party. The ideal

of a healthier, more productive, and therefore more powerful nation echoed Nazi calls for national revival. 'Eugenics embodied a technocratic, managerial logic – the idea that power was a product of the rational management of population' (Ibid: 6). Nazi ideology developed out of the twin concepts of *Rasse und Raum* (race and space) and *Blut und Boden* (blood and soil), which encompassed anti-Semitism and Nordic supremacy on the one hand and eugenics and pronatalism on the other. Resultant policies were supposed to improve the human stock by favouring the most 'advanced' racial type, the Aryan or Nordic race. Nazi ideologists viewed the pursuit of living space as part of an inevitable racial struggle for existence, which was driving human evolution forward. The primacy of that ultimate goal had never been in question, despite the oscillation of Nazi policies due to pragmatic considerations. Euthanasia and forced sterilisation in Nazi Germany evolved into a programme of mass murder, defined by a deadly mixture of ideology and cost efficiency (Ibid: 7-8).

Nazi biology was barbaric for the millions of individuals who were sterilised, maimed, or gassed in the name of science. A number of common features in the Soviet and Nazi biology permitted their rapid growth: centralised administration of research, ideological and political interference, the presence of an activist state, and the promise of rapid results. Yet, in one crucial way, the Nazi science of racial hygiene differed. It was a biologically deterministic doctrine in which heredity and genes mattered so much that the nurturist (environmental) concepts so prominent in the USSR played little role. The majority of eugenicists tended to be members of the professional middle class, particularly medical men and academics from such fields as biology, zoology, and anthropology. They were practising doctors, psychiatrists, lawyers, and others dealing with crime. These individuals felt threatened by a number of social developments, notably the creation of a mass urban society during the Weimar years. According to historian Jeremy Noakes, 'They both despised and feared the democratising, levelling aspects of a mass society and what they saw as the crude materialism of the new elite'. Eugenicists were concerned with the decline in population growth in Western Europe, which they attributed to a lower fertility of urban society. They worried about what they took as the degeneration of the race, which had resulted from declining birthrates, particularly among the upper classes. They also believed that social welfare programmes were 'dysgenic' in that they interfered with nature's elimination of the unfit. The eugenicists proposed keeping pedigrees of the gifted and the below average and recommended

measures to discourage dysgenic reproduction (marriage laws, confinement in asylums, sterilisation) and to encourage the eugenically favoured to have children (child benefits, tax reforms, propaganda) (Noakes, 1984). The Nazi accession to power ensured that the racist aspects of eugenics retained prominence, while enabling the social consequences of a eugenical philosophy to be put into legal practice (Graham, 1981: 223-31). The eugenicists were allowed to turn a purportedly scientific study into political practice when Hitler came to power. In this way, the strong eugenics tradition in Weimar Germany was important for the development of Nazi doctrines of racial hygiene. The major appeal of the Nazi regime to eugenic circles in North America and Western Europe lay less in its particular brand of racial science than in the might of a state that had unequivocally championed its cause - indeed, the state that was built on racial principles. Even the starkest critics of the Nazi regime among reform eugenicists, as Stefan Kuhl has contended, attacked only its discriminatory treatment of minorities, specifically the Jews, but never questioned the premise of race improvement per se. (Kuhl, 1994: 91-94).

Physicians became Nazified more thoroughly and much sooner than any other profession (Kater, 1989). By 1936, at least half of the German non-Jewish Doctors had become party members, and this level of enrolment was broadly sustained till 1945. Sheer opportunism was certainly one aspect of the matter. Amidst the economic crisis of the early 1930s, public funding for health was under intense pressure, even while profits from private practice also dwindled. In the last years of the Weimar Republic, the medical schools were producing far more new graduates than the employment system could absorb. So it was understandable that Hitler's radical recovery programme should have proved particularly attractive to those younger doctors who met 'Aryan' criteria. As for Jews, these constituted around 15% of the profession in 1933. Over the next five years, antisemitic laws effectively deregistered the bulk of them. As Proctor suggests, the phrase 'Jewish medicine' developed as 'a metaphor for all that was wrong in modern medical science and practice' (Proctor, 1988). The persecution inflicted upon those who practised this alleged aberration was, conversely, a scheme of job-creation or job-preservation for their former colleagues and competitors. Pross associates the latter with 'small-minded greed for money and privileges, careerism, and a mixture of envy, inflated self-esteem, and contempt for the so-called inferior' (Annas and Grodin, 1993: 13).

Doctors could hardly fail to recognise that there were some constructive aspects to Nazi health policy. It offered continuity with certain features of a Weimar 'welfare' programme, whose progress had been hitherto imperilled by weak government. In supporting a tougher regime, the medical profession certainly exposed itself to the coercive force of an enlarged state. Concerning the cult of 'racial hygiene', Proctor comments: 'One could well argue that the Nazis were not, properly speaking, abusing the results of science, but rather were merely putting into practice what doctors and scientists themselves had initiated (Proctor, 1988). Many of the latter had long nurtured reductionist biologism, suggesting that theirs was the key to some technical 'fix' for all major social problems. While that belief facilitated their intellectual collusion with Nazism, so too did the new regime's own concern publicly to exploit-rather than ever to repudiate, scientific renown earned by Germany over recent decades. In the medico-biological sphere, especially, the Third Reich even enlarged the professional infrastructures, with reference to such features as research institutes and journals. It is plain that some areas of practical health treatment and education fared quite well between 1933 and 1939, for example, cancer care, dentistry, dietetics, midwifery and breastfeeding, X-ray screening for tuberculosis, campaigns against alcohol and tobacco abuse, control of environmental toxins, as well as improvements to factory and housing conditions.

In those domains, the Nazis showed some real concern for promoting what we might call 'community' medicine. However, by treating this concept essentially as a matter of '*Volksgemeinschaft*', they also put a tight racial fence around the circle of potential beneficiaries. Even within the charmed racial circle, the ethics of confidentiality were rapidly eroded. Illness was now less a private than a public matter, being regarded above all as something that deprived the community of labour and imposed other costs. In sum, Hitler's regime aspired for total control over bodies as well as minds. The means by which Germans should fulfil their *Pflicht zur Gesundheit* (their essentially community-oriented 'duty to be healthy') was ultimately to be determined by political authority rather than by professional judgment. To appreciate how the Nazi philosophy of medicine was converted into action, let us focus on four of the more negative features of Hitler's racist eugenics: (a) compulsory sterilisation, (b) involuntary euthanasia, (c) genocide and (d) experimentation on non-consenting individuals.

The policy on compulsory sterilisation appeared early and openly. The Law

for the Prevention of Hereditarily Diseased Progeny (July 1933) set up a series of 'genetic health courts', each run by a lawyer together with two doctors (Noakes 1984). Their actual proceedings were secret, and successful appeals were rare. Starting from the basis of a general physical survey of the whole population, these courts were empowered to summon personal medical records, and, in effect, they turned physicians and psychiatrists into state spies, who were now expected to report on individuals seen as candidates for potential sterilisation. Quantitatively, the most important types of case were 'congenital feeble-mindedness' (53%) and schizophrenia (20%) (Ibid). Action was also authorised about manic depression, hereditary epilepsy, congenital blindness and deafness, serious physical deformities, and chronic alcoholism. The legislation was later extended to allow abortion within the first six months of pregnancy, in cases where the mother was found to have a hereditary illness. The men experienced vasectomy, while women underwent ligation of the fallopian tubes or (in a rising number of cases by the late 1930s) exposure to X-rays. It is also worth highlighting that most of those sterilised were Germans; that many of them were already housed in asylums; and that the Nazis justified this campaign in terms not just of eugenics but of economics too. Each of those points helps us to understand the eventual linkage with involuntary euthanasia.

By the middle of 1937, almost 200,000 persons had been sterilised, of whom 102,218 were men. Perhaps 400,000 individuals were sterilised during the Third Reich. This huge undertaking required enormous effort, extensive material resources, and new techniques, stimulating a 'cottage industry' of doctoral theses on new ways to achieve sterilisation cheaply. One of the most horrific was the use of powerful X-rays focused on the genitalia of unsuspecting individuals who were filling out questionnaires at a special desk that hid the X-ray source (Proctor 1988: 95-117). Nazi ideology, biological determinism, and totalitarian rule came together to allow eugenics in Germany to go much further. A German law permitting the castration of 'dangerous career criminals' and sex offenders was widely employed after the passage of the Law against Dangerous Habitual Criminals and Sex Offenders in November 1933. It was directed against homosexuals, even those suspected of being homosexuals, and against sex offenders on the flimsiest of evidence. Some twenty-two hundred were castrated between 1934 and 1941, with one prison doctor proudly boasting that he could complete

the operation with only a local anaesthetic in eight minutes. The law and its enforcement reflected a view of sexual preference for heterosexuality, essential to ensure the nativist call for a higher Aryan birthrate. During the war, the assault against homosexuals was extended to even inclination towards homosexuality (Giles, 1992).

Euthanasia, the next step in the Nazi racial hygiene program, had been widely discussed in the West since the late nineteenth century. There was a strong movement in support of it in Germany (Burleigh, 1995). The goal of a euthanasia law would be to reduce the exorbitant costs to the state and society of maintaining those classified as defectives. In Nazi Germany, the euthanasia laws beginning in October 1939 were a dress rehearsal for the subsequent destruction of Jews, Gypsies, Slavs, homosexuals, Communists, and prisoners of war during the 'final solution'. Euthanasia began with children under three years old, then rapidly moved to include adults.

In August 1939, the Committee for the Scientific Treatment of Severe and Genetically Determined Illnesses produced a secret report, which was forwarded to all state governments, asking that midwives or doctors delivering any child born with congenital deformities such as 'idiocy' or 'Mongoloidism', missing limbs and so on be registered with the authorities. Midwives were given an incentive to report these 'lives not worth living': they were paid two marks for each registration. Soon, doctors were using morphine tablets, cyanide, and chemical warfare agents to kill. The program expanded rapidly, with unofficial state endorsement, to children of six, then eight, twelve, and finally seventeen years of age. Adult euthanasia followed. Doctors once again played an integral part in evaluating applications, as they did for sterilisation. Many welcomed this program for furthering racial purity. Carbon dioxide showers and crematoria were developed to kill dozens at a time. By August 1941, 70,273 had been gassed. The eugenic elimination of those deemed inferior became a mundane occurrence; at a special ceremony held to mark the ten-thousandth cremation at one psychiatric institution, everyone received a bottle of beer. Nazi literature, art, films, and even school textbooks glorified euthanasia (Proctor, 1988: 177-92).

This was a slaughter that proceeded in the name of racial hygiene. Thus rationalised, killing could be treated not as murder but as healing, as a treatment aimed at preserving the health of the one racial community, which really mattered. At every turn, the annihilation procedures were supervised

– and, in a perverse sense, dignified – through the presence of medical staff. In the words of Lifton:

Doctors were given much of the responsibility for the murderous ecology of Auschwitz—the choosing of victims, the carrying through of the physical and psychological mechanics of killing, and the balancing of killing and work functions within the camp... We may say that the doctor standing at the ramp represented a kind of omega point⁴, a mythical gatekeeper between the worlds of the dead and the living, a final common pathway of the Nazi vision of therapy via mass murder (Lifton, 1986).

Historian Robert Proctor writes that this became less a single ‘Reich-wide operation and more the character of normal hospital routine. Doctors were never ordered to murder psychiatric patients and handicapped children, but were empowered to do so.’ Doctors had expressed some concern early on that their actions, strictly speaking, were not legal and, in fact, were never legalised. But the use of propaganda made it seem, to most of them, appropriate behaviour to act on the public sentiment about a need to eliminate the unfit. This widespread sentiment ultimately created the right environment for the ‘final solution’, the genocide of six million innocent people, to proceed. As Proctor concludes: “Each of these programmes was seen as a step in a common programme of racial purification. Medical journals used the expression ‘life not worth living’ to refer to those sterilised under the 1933 Sterilisation Law, to those killed in psychiatric hospitals, and to those killed in concentration camps” (Proctor, 1988: 221-22).

Nazi doctrines about the uselessness of these individuals permitted physicians to engage in horrific experiments in concentration camps. At Dachau, for example, Nazi doctors threw subjects into ice water to study hypothermia. They tested coagulants on prisoners’ freshly cut amputations. They tortured other inmates with a decompression chamber. One physician gathered brains from individuals who had been gassed to test his theories on the connection between strictly physical characteristics of the brain and various illnesses, depression, and diseases. Doctors injected people with gasoline, streptococci-laden pus, or tuberculosis bacilli. They carried out grotesque transplantations (Lifton 1986).

Conclusion

The idea of modern scientific rationality, which increasingly replaced folk knowledge and myths, is based on the distinction between facts and values and, at its core, ideally, the independence of political currents. Disregarding this distinction led scientists to label people with alleged or real hereditary diseases or other special hereditary traits as inferior or superior. Assessments such as these are not scientific but result only from ideologies. The demand of the future Nobel laureate Konrad Lorenz during the years 1940-43, that a scientifically underpinned race policy eradicate inferior elements from society, was one of the worst perversions of biologists in the service of the Nazi race policy at the time. A study of history shows how each generation tends to forget those actions of its forbears that do not fit in with prevailing perspectives. In the context of our own times, the decline of a liberal, international order, bolstered by misinformation and ultra-nationalist doctrines, is already chipping away at value neutrality in the pursuit of knowledge. It behoves us to remember that the anti-scientific or overly science-sceptic stances and actions do not lead to a better and more ethical science. On the contrary, they contribute to irrationalism and post-truth attitudes and the dangers to science and to humankind.

To conclude, we may refer to Max Weinreich, who remarked in *Hitler's professors* 'This murder of a whole people was not perpetrated solely by a comparatively small gang of the Elite guard or by the Gestapo, whom we have come to consider as criminals.... the whole ruling class of Germany was committed to the execution of this crime. German scholarship provided the ideas and techniques which led to and justified this unparalleled slaughter; they were to a large extent people of long and high standing, some of them world-famous authors with familiar names' (Weinreich, 1999).

Notes

1. Johann Gottlieb Fichte's views on the 'Volk' were shaped by philosophical ideas on Nationalism, freedom and morality. He believed that the Volk was not just a collection of individuals but a unified whole with a shared spirit, language and culture. Alfred Rosenberg, leading theoretician of the Nazi party, was influenced by Fichte's opinion on Nationalism, the organic view of society and the importance of language.

2. The Nuremberg Laws were a set of Anti-Semitic laws codified in Nazi Germany in 1935, aimed at persecuting, segregating and ultimately eliminating Jews from the body politic of Germany. These laws were announced at the Nazi Party's annual rally in Nuremberg, hence this name.
3. He was a French Aristocrat, writer and diplomat who is best known for his work 'An Essay on the Inequality of Human Races'. This book is considered one of the earliest and most influential works of Racism and White Supremacist theory. His work was later cited as an inspiration by none other than Hitler.
4. A fascinating concept developed by French Philosopher and palaeontologist Teilhard de Chardin. It refers to a technological singularity where human consciousness would merge with Artificial Intelligence, leading to an exponential growth in knowledge and capabilities.

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