

# Probing the Limits of Representation

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NAZISM AND THE "FINAL SOLUTION"

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HARVARD UNIVERSITY PRESS

Cambridge, Massachusetts

London, England

1992

*context* is intended to convey certain socially and linguistically negative continuities when connected to the "exceptional" aspects of the "Final Solution" ("our sinister traditions"). These overcharged terms are also connected to an affirmative predicate—mourning, remembrance, and "detached philosophical thinking"—an amalgam intended to signify an enlightened perspective. There is thus a negative and positive of "continuity." But this enlightenment turns out to be an affirmation of myth, where the West is defined in empty terms and where every cultural or political move which is not enlightened is negated. The affirmative myth-judgment concerning the West as a model of positivity obscures the counterjudgment that capitalism is not aligned, safely, with "fundamental liberalization."

Because Habermas does not consider capitalism to share the semantic-real space of irrationality, he rejects the so-called young conservatives (postmodernists) as antirational and antimodern, and hence approximate Nazis. It seems to me that if Habermas were to consider capitalism within the semantic orb of criminality he would wish to dismantle the construction of the "Final Solution" as an event of both "exceptionality" and "learning"—because to acknowledge the "civilized nihilism" or the "acceptable criminality" of capitalism would mean a nonmediated encounter with *facts of the present*.

As opposed to Habermas' endeavors to salvage modernity—no matter how evil and criminal—Lyotard's treatment of Nazi phrasing suggests that the "Final Solution" is not intrinsically attached to any "historical" mode of comprehension. It is our Western narcissism which conflates modernity and present, present and "history." Dispossession and the concept of the differend remind us that modernity is not itself a necessarily "historical" phenomenon. An analysis of the ambivalences and dangers built into modernity (for example, the "normal" asociality of capitalism) might show that the "Final Solution" pushed its own dispossession beyond limit, beyond "speculative dialectics," by its connection to a mythic narrative which, paradoxically, resulted in "Silences, instead of a *Resultat*." The real fright concerning modernity is that it still expands in the political and social-economic spheres while in the cultural and critical spheres it is trapped by premodern belief formations.

## Science, Modernity, and the "Final Solution"

MARIO BIAGIOLI

A number of publications in German and English have begun to fill a conspicuous gap in the historiography of German medicine and life sciences in the Nazi period, and recent debates on the use of scientific data from Nazi experiments on camp prisoners have spread the discussion among nonspecialists.<sup>1</sup>

Some narratives on Nazi medicine and life sciences offer well-documented analyses not only of Nazi medical crimes—events that began to emerge at the Nuremberg and Frankfurt trials—but also of the role played by doctors as a professional body in the scientific justification, development, and implementation of Nazi racial policies from the beginning of the Nazi regime until the so-called Final Solution. However, most of these works tend (in various ways and to different extents) to present Nazi scientific practices as a major anomaly within the history of science.

Although the modalities of this bracketing vary in relation to the historian's professional, national, ethnic, and political background, they seem to share a common denominator in that they generally reflect an essentially positive view of science, one which stands in the way of recognizing what some Nazi doctors did as "science." Such a representation of science seems to reflect not only appreciation of the cognitive effectiveness of scientific method but also a belief in the symbiosis between science and the values of modernity as expressed in the culture of Western democracy.

The belief in this symbiosis goes back to the Enlightenment and reemerged very conspicuously during World War II when both science and democracy were perceived by non-German analysts as being seriously threatened. Writing in 1942, the American sociologist of science Robert Merton presented a normative view of the social system of science as a mirror image of a Western capitalistic democracy organized around the principle of a competitive free market.<sup>2</sup> In those years, the

nexus between "good" society and "good" science was stressed also by two British Marxist scientists and historians of science, John Bernal in 1939 and Joseph Needham in 1941.<sup>3</sup> Although Bernal and Needham probably would have disagreed with Merton on what a "good" society should look like, they all shared the belief that the same rationality that produced "good" science was that which produced politically just social structures.<sup>4</sup> With the partial exception of Bernal, these authors also suggested that bad science (and the Nazi example must have been in their minds) was the result of external influences rather than of dynamics inherent in science itself.<sup>5</sup>

As shown by most interpretations of Nazi medicine written in the 1980s and by some histories of Nazi physicists, authors who believe in the symbiosis between the values of modernity and those of science are caught in a bind. Admitting that Nazi science (including experimentation on humans) was a form of science rather than its aberration would automatically proliferate into a questioning of their beliefs not only in science but also in modernity and its values.<sup>6</sup>

Because it is both about the Holocaust and about science, the history of the role of German life sciences in the Final Solution shares in the thorny historiographical problems both of the Holocaust and of science. As shown by the recent "historians' debate," Holocaust scholars are struggling with the interpretive problems posed by an event like the Final Solution, which took place within the framework of modernity and yet seemed to subvert all the values commonly associated with that culture. On the other hand, recent studies of science have developed increasingly complex views of scientific change that are exposing the tensions in what was previously perceived as the unproblematic and mutually reinforcing link between the culture and historical development of science and modernity. What follows is an attempt to locate some of the problems of writing the history of Nazi science in the concentration camps within the problematic space framed by the intersection of the post-Kuhnian debate in science studies and the so-called historians' debate.

### *Bracketing Nazi Science*

Perhaps the most common bracketing device displayed by recent histories of Nazi medicine is the shift from talking about science to talking about scientists. As one can guess from the title, Michael Kater's very recent *Doctors under Hitler* (like Beyerchen's older *Scientists under*

*Hitler* or Lifton's *Nazi Doctors*) is an exemplar of this type of historiography. Kater does not claim to be a professional historian of science or medicine and, in fact, his other well-known book is a prosopographical analysis of Nazi party leadership. Consequently, *Doctors under Hitler* does not focus primarily on medical theories and practices of German medicine during National Socialism but rather produces a very detailed, biography-oriented, sociopolitical history of the medical profession under Nazi rule. Because of his ethical stance and his relative lack of interest in the technical dimensions of the history of medicine, Kater believes that any assessment of the scientific content of Nazi medicine would be completely pointless: "It is my contention that these ethical violations by themselves were sufficient to discount any nominal progress that might have been accomplished by the profession . . . for ethics supersedes all considerations."<sup>7</sup>

Both in the book and in articles, Kater states his view that Nazi medicine was not real medicine but an incomprehensible perversion of it.<sup>8</sup> In his most recent work, he suggests that Nazi medicine deviated from proper medical practice because of its uncritical adoption of the method of the physical sciences. According to Kater, this methodological borrowing led to an extreme objectification of the patient and to the alienation of the doctors from their commitment to healing. Eventually, these attitudes reacted in lethal ways with what he considers to have been irrational notions about race that had been injected into the medical students' curricula.<sup>9</sup>

Although Kater is well aware that a demonization of a few Nazi doctors would actually prevent a fuller historical understanding of the broader role of German physicians and medicine in the Final Solution, his suggestions about how to achieve such an understanding are still based on a perception that what some Nazi doctors did was incommensurable with normal medical practice.<sup>10</sup> By not questioning the very complex relationship between healing practices and medical research, or the processes through which notions that we now consider irrational were once regarded as scientifically legitimate and to be incorporated in medical curricula, Kater ends up in the paradoxical position of criticizing the demonization of Nazi doctors while, in practice, ruling out the analyses that may have avoided it.

Benno Müller-Hill is an accomplished German geneticist trained after World War II. Troubled by the silence his profession has systematically maintained on physicians' involvement in the Nazi regime and in the

Final Solution, Müller-Hill has produced a short but powerful book which presents a range of previously unpublished archival material and concludes with a long series of probing interviews with a few former Nazi doctors or people close to them.

Müller-Hill's clear though somewhat unreflexive views on the history of the natural sciences are stated at the very beginning of the book: "The history of the natural sciences has two themes, one, the formation of their foundations, and the other, an account of their effects on society. Everyone who follows the calling of a natural scientist experiences pleasure, when his work is done, in studying the unfolding of knowledge in his science; it is a story both beautiful and true."<sup>11</sup>

Committed, as Müller-Hill is, to preserving the belief in the truth-finding character of the discipline he has successfully practiced for years, he claims that science may influence society but excludes the possibility that society may have any influence on science. Because of this purity-preserving, one-way influence between science and society he cannot, I think, blame the horrors of Nazi science on the social circumstances that may have corrupted it. Moreover, his belief in the truth-producing character of genetics seems to prevent him from considering that genetics may have been directly involved in the development of Nazi racial hygiene.

Consequently, he tries to argue that the culprit behind Nazi racial hygiene is not the "natural" science of genetics but the "soft" sciences of anthropology (or human genetics), psychiatry, and psychology which, because of their scientific "immaturity," misused real genetics in lethal ways: "In these sciences it is easy to think that only what is new is true. But when I think today of the story of how genetics was once put to use in anthropology and psychiatry, I see a wasteland of desolation and destruction . . . The recent history of these genetically oriented human sciences in action is full of chaos and crime as a nightmare."<sup>12</sup>

This strategy of disciplinary blame is played out throughout the book: the "soft" sciences are blamed for the disaster while the "natural" science of genetics is barely mentioned and never in any accusatory fashion.<sup>13</sup> Very similar views emerge also in one of his later articles: "It seems to me most revealing that so many German professors of psychiatry, anthropology or human genetics used their knowledge to have their clients mutilated or killed by others in the name of science. This and the fact that they did not express remorse or guilt should have

automatically made these sciences internationally suspect after the war. Sciences or arts whose members find it that easy to maim and to kill should be analysed very, very carefully for their content."<sup>14</sup>

Müller-Hill seems to think that the reason these "soft" sciences contributed to the Final Solution was because their practitioners were anxiously trying to get the recognition and power they could not gain through the low scientific status of their discipline: "What kind of position did anthropologists and psychiatrists hold in National Socialist society? They had no power. Yet as scientists, they helped by justifying robbery and murder. They gave a scientific gloss and tidiness to the Nazi programme."<sup>15</sup> In other words, they sold their scientific soul to the Nazis to fulfill their frustrated scientific ambitions by other means.<sup>16</sup> As Müller-Hill puts it, "Finally they were respected as the experts they were to straighten out the problems of workers, soldiers, and murderers alike."<sup>17</sup>

However, Müller-Hill's intricate attempt to save "good" science through the selective scapegoating of "bad" scientific disciplines runs aground soon. In fact, the modern taxonomy of scientific disciplines in which he roots his strategy does not match the disciplinary scenario of the Nazi period.<sup>18</sup> Moreover, the involvement of geneticists in racial hygiene was institutional as well as scientific. Most of the members of the *Beirat für Rassenhygiene*—the first official German institution for eugenics and racial hygiene—established by the Prussian Ministry of Public Welfare as early as May 1920 were geneticists. And geneticists were those who lobbied for an increasingly stronger relationship between eugenics and social policies in the interwar period—contributing to setting the stage for the events that led to the Final Solution.<sup>19</sup>

The bracketing of Nazi medicine one finds in Robert Jay Lifton's *Nazi Doctors* is less intricate than Müller-Hill's, but its methodological and ethical consequences are more complex.<sup>20</sup> Lifton sees Nazi doctors as having subverted medicine from a practice of healing (to which he thinks doctors should be bound by the Hippocratic oath) to a science of killing. Lifton's bracketing of Nazi medicine is global. Nazi medicine was not just corrupted: it was inverted.<sup>21</sup>

Different from Kater and others who see Nazi medicine as plagued by perversions beyond comprehension, Lifton's perception of it as the inversion of normal medicine allows him to keep an ethical distance between himself (a Jew and a healer) and the Nazi medical killers. At

the same time, this view gives him a framework within which to study the phenomenon of Nazi medicine. In fact, a phenomenon that is the opposite of the norm can be better grasped than a random aberration. At the same time, seeing Nazi medicine as the opposite of what he takes medicine (and his own practice as a doctor) to be allows him to have some sort of "inverted empathy" that proves important to his study.

It is not that Lifton becomes empathetic with the Nazi doctors he studies.<sup>22</sup> Rather, his "method of inversion" allows him not to feel "polluted" by trying to figure out the thoughts and motives of a Mengele. In fact, by representing them as being precisely the opposite of his own, he rules out any possibility for complicity. Yet, by "inverting" his own thoughts, he also seems to gain some access to Mengele's mentality. Basically, Lifton perceives Auschwitz as a hospital upside down.

Let me give an example of the workings of this method. At one point Lifton writes that "Mengele was relentless in tracking down Gypsies, especially children, who tried to escape their fate. Though the assumption [for Mengele's research on Gypsies] was factually wrong, its psychic truth lay in Mengele's inexorable commitment to the Nazi principle of murder-selection."<sup>23</sup>

Lifton begins by stating that Mengele's research was unscientific—and this would be where Kater and others who see Nazi medicine as an incomprehensible aberration would probably end their analyses. However, he then takes a next step and talks about the "psychic truth" of Mengele's behavior, one that he does not relate to principles of ethically and scientifically acceptable medicine but rather to a "negative axiom," that is, to the Nazi inversion of the Hippocratic oath into a commitment to killing.

Not every sentence of the book reflects this "method of inversion." Nevertheless, this overarching belief allows Lifton to go further than most other historians of Nazi medicine. His reflections on the psychological dimensions of the process of socialization of the doctors in the "Auschwitz system" reflects a methodological stance that gives visibility to the institutional conditions that triggered the inversion from healers to killers.<sup>24</sup>

Although Lifton tends to be either critical or dismissive about the cognitive relevance of the science produced by the Nazi doctors in the camps, he does report the favorable comments on the soundness of Mengele's scientific method he has received during interviews with

survivors like Doctor Teresa W.<sup>25</sup> For comparison, similar views on Mengele expressed by his Jewish captive assistant Miklos Nyiszli moved Bruno Bettelheim to warn the reader of their problematicity. In his preface to Nyiszli's autobiography he writes, "How Dr. Nyiszli fooled himself can be seen, for example, in his repeatedly referring to his work as a doctor, though he worked as the assistant of a vicious criminal. He speaks of the Institute for Race, Biological and Anthropological Investigation as 'one of the most qualified medical centers of the Third Reich' though it was devoted to proving falsehoods."<sup>26</sup>

I believe that Lifton's judgment on the scientific work conducted at the institute of von Verschuer (Mengele's mentor and the recipient of the human material resulting from his experiments at Auschwitz) would not be different from Bettelheim's. However, Lifton—like any psychiatrist who does not need to state continuously his/her distance from the patient's delusions or dreams—would not feel compelled to back away so explicitly from Nyiszli's beliefs. Lifton's "method of inversion" grants him some ethical leeway for interpretation.<sup>27</sup>

For all the interesting aspects of Lifton's bracketing of Nazi science, his approach rests, I think, on assumptions that are historically problematic. My perplexities are not so much about his almost exclusive emphasis on the institutional-psychological processes through which normal physicians were inverted into killers within and by the Auschwitz system (an approach that pays minimal attention to the role that received theories of racial hygiene may have played in this inversion). What I find more problematic is the introduction of a historically unwarranted inversion between healers and killers as a way of demarcating normal medicine from the practices of the Nazi doctors.

A number of social histories of ancient medicine have indicated that the Hippocratic oath was not really a universal norm but an idealized, self-legitimizing representation of an emerging profession.<sup>28</sup> Although Lifton's endorsement of it as an inviolable norm speaks to his credit as a physician, the history of medicine indicates that the distinction between healers and killers is far from being so clear-cut. I am not talking about individual doctors that have killed patients because of incompetence, but about the problematic yet intimate relationship between healing and the dangers inherent to research<sup>29</sup> or to the social role of medical institutions—a relationship that, as shown by recent historiography of medicine, incorporates both healing and social control.

Consequently, Lifton's idealization of "normal" doctors and his rep-

resentation of Nazi doctors as their negative image works a bit as an exorcism of the problematic aspects of "normal" medicine as displayed by its history. At the Nuremberg trial, the defense lawyers for the Nazi doctors were able to produce a list of fifty-three non-Nazi publications reporting human experiments on convicts, immigrants, invalids, children, soldiers, nurses, and sanitation employees.<sup>30</sup> Seventy percent of these articles did not mention the subjects' consent, and some of them referred to experiments conducted in the United States at the beginning of the century.<sup>31</sup>

Although the discourse of the Nuremberg defendants is very problematic in that it tries to present as unproblematic scientific practices that do not need to be accepted as such, it nevertheless exposes the myth of origins at the base of Lifton's views of medicine—a myth that prevents "normal" medical science from being seen as implicated in the Final Solution.

Experimentation on humans in the concentration camps and the Nazi doctors' role in the Final Solution are not the specific focus of Robert Proctor's *Racial Hygiene*, which instead is concerned with tracing the pre-Nazi development of theories of racial hygiene and the successive symbiosis between Nazi political culture and medicine.

A distinctive feature of Proctor's work (and one that I fully endorse) is that it represents the disastrous results of Nazi racial hygiene as historically exceptional but does not analyze the processes that led to those results as if they were unique. In his work, Nazi medicine is not bracketed off from the history of science but is analyzed as an example of how—in a certain sociohistorical context—the interaction between science and power led (and therefore could still lead) to unprecedented crimes.

Although there are important overlaps between his book and both Müller-Hill's and Kater's in terms of information, the picture presented here is not that of the "nazification" of German medicine, genetics, psychiatry, and anthropology but that of a full interaction and mutual reinforcement between Nazi politics and German life sciences. Proctor's narrative is neither about politics invading or perverting science (as is the case with Kater and Beyerchen) nor about a minority of power-hungry and genetics-ignorant physicians, anthropologists, and psychiatrists who fed the Nazis with racial myths in exchange for political recognition and power (as Müller-Hill has it).<sup>32</sup> Instead, Proctor

suggests that the doctors were not nazified more than the Nazis were medicalized, and that this symbiosis was co-orchestrated by the top professionals in the medical sciences.<sup>33</sup>

By tracing the development and increasing popularity of theories of racial hygiene among German life scientists since the end of the nineteenth century, Proctor indicates that science set the stage for the Final Solution well before the arrival of National Socialism.<sup>34</sup> When the Nazis took over, the preexisting scientific discourse allowed the doctors to become the priests of the cult of the German blood as well as its medical keepers and the exterminators of its potential polluters. The symbiosis between Nazi politics and medicine seems to be rooted in the fact that they shared the same race-based "ontology." Race was the "natural" subject matter of medical science as well as the "natural" foundation for the German nation.<sup>35</sup>

However, Proctor does not present the collapse of the spheres of politics and science in Nazi Germany as implying that science and politics are always the same thing. His analysis suggests that the lethal symbiosis between science and politics that happened once in Germany under specific cultural and historical circumstances may or may not happen again depending on the structures of democratic management of science that are developed. In short, there are no safeguards in the scientific method or in scientific ethics to prevent such interplay from happening again.

Proctor does not present specific methodological parameters for sorting good from bad science. However, his analysis suggests that the least problematic option would be to make sure that each social constituency is democratically represented among scientific practitioners.<sup>36</sup> If one cannot define generally valid methodological rules to keep racist ideas out of science, at least one should make sure that people from social groups that may be affected by such views can be in positions to argue against them in the scientific arena.<sup>37</sup>

With the April 1933 Law for the Restoration of Civil Service, which excluded Jewish physicians from civil service in universities and health insurance companies, the Nazis (with the support of German doctors much eager to take over the jobs of the many Jewish practitioners) excluded from German medicine and science those who could have exposed its racist theories with scientific arguments. In a sense, Jews and other minorities became disempowered victims by being excluded from the scientific criticism of theories about them.

To Proctor, I think, camp science was bad science not because it represented an inverted image of normal science and healing medicine, but because it was a crime against humanity. As a result, Proctor does not focus—as Lifton does—on the Auschwitz microcosm to study the specific institutional and psychological processes that allowed for the inversion of physicians from healers to killers. To him, the key to understanding the role of the life sciences in the Final Solution (and to prevent it from happening again) is not so much in the reconstruction of what happened in the minds of the Nazi doctors operating in the camps or in the psychiatric hospitals, but in the fine mechanisms through which an accepted and respected scientific discourse allowed for the representation of certain ethnic and social groups as inferior and through which it legitimized (and was legitimized by) the culture of national socialism.

### *The Problems of "Normality" and "Exceptionality"*

This brief survey seems to indicate the presence of certain homologies between the positions that have emerged from the debate over the history of Nazi science and those that have characterized the historians' debate. More specifically, the works of Kater, Müller-Hill, and Lifton could be seen as representing Nazi science as something exceptional or, at least, nonnormal. Proctor's approach, instead, may be perceived as arguing for the "normality" of the processes by which the discourse of racial hygiene became involved in the Final Solution. Because the debate over "normality" and "exceptionality" is central to the current discussions on the historical interpretation of the Final Solution, let me discuss and compare the meaning of these categories in recent science studies and in the historians' debate.

Since Thomas Kuhn's work, the field of history and philosophy of science has seen a steady increase in works that question representations of science as either a perfectly transparent and normal process structured by unproblematic rules or as a heroic quest for knowledge sometimes achieved through exceptional leaps of scientific genius. For instance, representations of science as a progressive, cumulative, and continuous enterprise and of scientific discoveries as "facts" routinely arrived at by scientists have been shown to be based on a fetishization of "facts" which renders invisible the complex processes through which facts are perceived and certified. Similarly, the notion of scientific ge-

nus is no longer viewed as an adequate interpretive category but as an opaque concept invoked in place of a careful empirical study of the nonexceptional processes that make scientific change possible.

Together with the questioning of both the reified normality of scientific progress and mythical exceptionality of scientific genius, recent analyses have also begun to perceive power as no longer external to science. Although there is considerable disagreement on the extent to which power is involved in the process of scientific production, historians, sociologists, and philosophers of science are paying increasing attention to the mechanisms through which science and power interact, modify, and legitimize each other.

The picture of science produced by post-Kuhnian science studies is that not of a methodologically or conceptually unified enterprise but of one that develops through a variety of context-specific negotiations. In a sense, this approach does not find exceptionality in science because no rigid norms are assumed about what science should concern or about how scientists should behave. This outlook does not mean that this historiographical approach denies the rationality of the scientific enterprise. It simply denies that the philosophers' reason should be used as an a priori, "master" category by which to assess (and normalize) the behavior and choices of the scientists under study. Paraphrasing Pierre Bourdieu, this approach may be called "fieldwork philosophy."<sup>38</sup>

Similarly, the distinction between common-sense knowledge and science is not placed within the distinction between opinion and truth but concerns ways common sense has been transformed into scientific thinking through specific educational, experimental, and institutional practices. In a sense, the post-Kuhnian project could be seen as the continuation of what Jack Goody outlined in his *Domesticization of the Savage Mind*—an analysis of the way literacy mediated the transition from so-called primitive mentalities to more recent forms of thinking.<sup>39</sup> As a result, the symbiosis between science and modernity is no longer perceived as a "natural" fact, but as a historically produced and mutually legitimizing representation of the development of both science and modernity.

But the understanding of the "normality" of science sought by recent science studies is not the "normality" that some participants in the historians' debate have predicated of the Final Solution. In fact, although science is being increasingly studied in its local expressions and

“normal” everyday practices, the result is not a normalizing study. Here, contextualization does not mean “reduction to the context,” because context is not treated as an absolute frame of reference for the evaluation of historical events “contained” by it. In a sense, the context itself is reinterpreted while interpreting the event that took place in it. Contrary to the type of historicism expounded by Nolte, the aim of this approach to the study of scientific change is to show how a specific context and specific scientific norms and ethos were constructed.<sup>40</sup>

From this point of view, the conflation of “analogy” and “explanation,” or the use of context as a reservoir of analogies through which to normalize a given event, is a category mistake. To say, as Nolte does, that the horrors of the Final Solution are comparable to those of other massacres is a tendentious misuse of the explanatory features of analogy.<sup>41</sup> What is particularly problematic in Nolte’s position is not the use of analogy *per se*, but the fact that he “naturalizes” his terms of comparison. His “explanation” rests on the tacit assumption that we should take for granted the massacres of modern history and that we should treat them as “facts” and employ them in explaining “similar” events. Consequently, he does not use analogy as a tool for a dialogical interpretation of an event and its context, but as a device by which two explananda (Stalin’s and Hitler’s massacres) are magically transformed into “normal facts.”<sup>42</sup> In Nolte’s hands, analogy becomes a cover-up device rather than a tool for “working-through.”

However, the critique of normalization outlined here does not imply an endorsement of unqualified uses of the category of “exceptionality” in historical interpretations. Although I endorse Habermas’ exposé of the neoconservative agenda of recent German historiographical revisionism, I cannot agree with his representation of the exceptionality of Auschwitz as a necessary component of the response to the recent re-emergence of conservative and nationalistic tendencies in Germany.<sup>43</sup> By stressing the exceptionality of the Final Solution, Habermas may be in fact doing more than just responding to the neoconservative agenda of Nolte and his cohorts. To Habermas, Auschwitz is not only an exceptional crime but also a devastating anomaly to his modernistic philosophical agenda based on the discourse of Enlightenment rationality. If we keep this perspective in mind, Habermas’ emphatic claims of the exceptionality of the Holocaust can be also perceived as a sort of politico-philosophical exorcism.<sup>44</sup> In a sense, the strong negative reaction provoked by the extremity of Nolte’s claims may have helped the

perception of Habermas’ emphasis on the exceptionality of the Final Solution as a politically correct move while hiding its exorcistic dimensions.

Following very different political agendas, Nolte and Habermas assess the normality or exceptionality of the Holocaust within the framework offered by the discourse of modernity. To Nolte, the Holocaust is not exceptional because it shares in the genealogy of other massacres of modern history. Habermas, instead, stresses the exceptionality of Auschwitz because he cannot fit it into his view of modernity rooted in a mythical representation of the discourse of the Enlightenment. In short, notions of “normality” and “exceptionality” as introduced in the historians’ debate belong to a historiographical discourse that (in very different ways and with very different goals) tries to legitimize views of the present and of modernity. Some of these considerations can be transferred to the analysis of recent representations of Nazi science.

The bracketing of Nazi science found in the works of Kater, Lifton, and (to a lesser extent) Müller-Hill share in Habermas’ attempt to prevent Enlightenment rationality and modernity from being perceived as involved in the Final Solution.<sup>45</sup> But there are also views of Nazi science that share in the methodology (though not in the political agenda) of Nolte’s interpretation of the Final Solution. These positions are not present in the literature on Nazi science discussed above but have emerged in debates on the ethics of using data coming from the Nazi hypothermia experiments.<sup>46</sup>

According to these views, science is a value-free enterprise. As a result, the data one obtains during a research planned and executed according to the standard scientific method are “facts” whose epistemological status cannot be questioned on ethical grounds. The analogy with Nolte is that this position presents the fact-producing features of scientific method as a given in the same way that Nolte takes modernity and capitalism as facts (in the sense of something “natural”) that, consequently, cannot be questioned. The homology is not accidental but reflects a specific strategy that tries to defend the symbiosis between science and modernity by making it unfalsifiable.

In this case, the relationship between science and modernity is not the idyllic type produced by Lifton and Kater (who reify the Hippocratic oath into some sort of social contract) or by Habermas’ utopian vision of a society operating around the principles of “communicative action.” Science and its method are here presented as something that

is neutral, value-free, and cognitively effective rather than as the carrier of “good” values. In this case, the symbiosis between science and the culture of modernity develops from the representation of science as being value-free, rational, and objective. This is done by presenting science as “natural” and therefore “good” by virtue of being natural. In turn, the “naturalness” of science is supposed to warrant the inherent “naturalness” of modernity—a culture represented as having developed from that type of “natural” reasoning. Consequently, science and modernity are represented as sharing in the good value of being value-free. The oxymoron is, I think, telling.

From the representation of science as a value-free enterprise, it follows that if science falls into the wrong hands, then it may produce disasters. But such disastrous results are nevertheless scientific and, as such, do not refute the epistemological status of science. Similarly, Nolte presents capitalism and modernity as a given, an axiom of civilized life, something that is historically produced and yet “natural.” Like science, the logic of capitalism and modernity have proven very effective—in this case by bringing about major social, cultural, and economic changes. But, precisely because of their being “value-free,” the dynamics of modernity can lead to tragedy once they fall into the hands of people like Hitler or Stalin. Consequently, Nolte does not present these tragedies as something leading to the questioning of the status of modernity, but rather as very sad “facts.” To him, the “epoch of fascism” is an unfortunate and yet unsurprising consequence of the industrial revolution.<sup>47</sup>

Paradoxically, the crimes of Nazi science end up “proving” the “objectivity” of science because they indicate that, unfortunately, scientific method—precisely because it is “neutral”—works also in the hands of criminals. Similarly, in Nolte’s narrative, the Final Solution and Stalin’s massacres “prove” that the dynamics of modernity are value-free (and therefore “natural”); they also prove that the tragedies of modernity are “normal,” in the sense both that they could (and did) happen and that—by happening—they confirm that the dynamics of modernity are value-free. In the case both of Nolte and of those who argue for the cognitive “normality” of Nazi science, what could have been read as a devastating critique of received representations of modernity and science (and of their symbiosis) is turned into a confirmation of those representations—one that is particularly powerful precisely because it acknowledges (while normalizing) the possibility of “things taking a sad turn.”

Through this brief comparison of the use of the terms *exceptionality* and *normality* in the historians’ debate and in narratives about Nazi science, I have indicated the ways modernistic agendas have framed their meaning. Despite apparently radical differences, the view of science as inherently good (and thus of Nazi science as nonscience) and that of science as neutral (and thus of Nazi science as the historical proof of science’s being value-free) belong to the same discourse and share in the same attempt to defend (in very different ways) the symbiosis between science and modernity. The belief in this symbiosis entails a very high risk because it can be maintained only by trivializing or denying visibility to the processes through which science became (and could again become) involved in events like the Final Solution.

Instead of arguing about the inherent neutrality or goodness of science and about the normality or exceptionality of Nazi science, I will try to break away from this modernistic framework and, by using some of the approaches developed by late twentieth-century science studies, look at science as a process. In fact, views of science as either neutral or good reflect a similar essential assumption: science is a “thing” that has the essential quality of being either good or neutral. Instead, I want to propose a few examples that present science as an activity, as something that is produced and that has been (and still is) produced in very different ways in different contexts.

#### *Buchenwald’s Division for Typhus and Virus Research*

Ludwik Fleck’s 1935 *Genesis and Development of a Scientific Fact* is probably the most important historiographical ancestor of the new science studies methodologies sketched earlier in this chapter and one that informed Kuhn’s influential *Structure of Scientific Revolutions*.<sup>48</sup>

In 1946, Fleck published “Problems of the Science of Science,” a short piece that presented an analysis of the scientific practices of the “Division for Typhus and Virus Research” at Buchenwald—a laboratory with which Fleck was associated as a captive collaborator from December 1943 to spring 1945.<sup>49</sup> The medical crimes committed on Buchenwald’s Block 46 by Ding-Schuler—the director of the research laboratory at Block 50 with which Fleck was associated—were judged at the Nuremberg Trials.<sup>50</sup> In his study of Ding-Schuler’s research program, Fleck does not focus on the experiments on humans but rather on the internal dynamics of the research laboratory.

Fleck’s interest in these processes is connected to his theory about

the ways scientific consensus is developed in interacting groups of scientific practitioners. To him, science is not a truth-producing enterprise, but one in which—because of a very specific sociological and institutional context—scientists “tune” their beliefs to those of their colleagues who share a similar “thought style.” What distinguishes such a system of scientific beliefs from other forms of coherent beliefs is the quantity of “links” established among the objects studied by that group—what Fleck calls a “thought collective.” Very schematically, what distinguishes a scientific from a nonscientific world view is not its coherence (for both can be equally coherent) but rather its “tightness”—the density of the relations (what Fleck calls active and passive links) it weaves around and between the objects it tries to know.

Fleck presents the “Division for Typhus and Virus Research” as an example of what happens when the sociological mechanisms responsible for the production of what he calls “the harmony of illusions” operate among people who do not share the same thought style, that is, among people who have not been socialized in the same scientific specialization and have not, for instance, learned to see the things they are supposed to see in preparations under the microscope. Although several of the captive participants in the Buchenwald research group had a medical background, they were not specialists in serology. In fact, none of the Buchenwald researchers had ever seen the germ of typhus (*Rickettsia prowazeki*) but relied on current scientific textbooks to learn how to see and manipulate it to produce vaccines.

The result was that, also under the pressure of the boss Ding-Schuler, the members of the group managed to “see” (in good faith) *Rickettsias* in preparations that contained other germs but not these. The researchers then developed a sophisticated system of beliefs which managed to explain the various anomalies that kept emerging.<sup>51</sup> Following this much-welcome “discovery,” a scientific routine of vaccine production was coherently developed around these “findings,” which were also quickly sent outside the camp to internationally known German specialists who praised the results. When preparations with real *Rickettsias* finally arrived at the Division for Typhus and Virus Research from an outside microbiological laboratory and the researchers saw the real thing, they did not explicitly acknowledge the fictional character of the construction they had so coherently developed, but found a way to integrate the new evidence with the old beliefs.<sup>52</sup>

To Fleck, this was not an instance of “bad” science but an example that showed the process through which a scientific theory (one that no longer fits the current “thought style” of the discipline) was constructed.<sup>53</sup> In a sense, the science produced within Ding-Schuler’s program was an example of anachronistic science—one that may have been produced in another time, when the “thought style” of typhus research was different. In fact, although the scientific activity of the Division for Typhus and Virus Research did not become a success story, Fleck presents it as a picture of standard dynamics in a scientific community, dynamics that, if operating in a “current” scientific setting, would have produced “current” science.

What is important in Fleck’s example is that it does not assume any fixed norm by which the science of Ding-Schuler’s group should be assessed. Although the context in which it developed had much to do with the anachronistic features of the science produced at the Division of Typhus Research, such an effect was not that of a corruption.

### *The Camps and the Discourse of Racial Hygiene*

To understand something about the mechanisms through which a given scientific view of culture and race was legitimized and contributed to the development of concentration camps and, eventually, to the Final Solution (which in turn provided the setting for camp science) we may turn to the interaction between the discourse of racial hygiene and the institution of the concentration camp—an institution which objectified the prisoners and represented as scientific the norms that regulated life and death in the camps.<sup>54</sup>

This hypothesis is somewhat informed by an essay by Adi Ophir in which he approaches the Holocaust as an exceptional event but indicates its origin in an exceptional combination of normal processes.<sup>55</sup> Although the Foucaultian agenda of his essay is never made explicit, its foci (the relationship between discourse and the technologies of power, discipline, and surveillance) can easily be traced back to Foucault’s analyses of some of the institutions of modernity: the penitentiary, the clinic, the asylum.

In fact, Ophir stresses the necessity to “understand the technology of power and the modes of ‘excluding’ discourse which made the Holocaust possible: the discourse which made it possible to exclude a group of people from within the borders of the human race, and the technol-

ogy which made it possible to massively deport them to their deaths.”<sup>56</sup> Although the aim of Ophir’s piece is not that of providing a full-fledged plan for this analysis, it is safe to assume that racial hygiene was part of that discourse, that the concentration camp was the institution that embodied it, and that that institution and discourse tended to legitimize each other.

For instance, the exterminations of entire blocks in the camps were presented as medical actions (“selections”) aimed at preventing the spread of diseases which Nazi theories of racial hygiene linked to the genetic makeup of non-Aryans. This process confirmed both the scientific soundness of the decision to exterminate (or “disinfect”) a block or a group of people and the theories of racial hygiene that linked diseases to the genetic makeup of certain “inferior” races.

Similarly, while sending hundreds of thousands of Jews to the gas chambers as a routine extermination of individuals whose lives had been represented as not worth living by received theories of racial hygiene, Mengele was using Auschwitz as a scientific institution which offered exceptional possibilities to study usually rare individuals. These studies on twins and the handicapped were then used to confirm a discourse of racial hygiene which lent scientific legitimation to the institution of the concentration camp and to the genocide to which that institution had been dedicated.

These loops of mutual legitimation among discourse, institutions, and power remind one of the structurally similar patterns Foucault discusses in the case of the hospital and the penitentiary. These analogies suggest that the context in which experiments on humans were carried out was not simply an institution of social control and extermination that happened to employ many doctors. This suggestion is supported by the evidence uncovered by recent studies suggesting that the symbiosis between the discourse of racial hygiene, the medicalization of the Final Solution, the institution of the concentration camps, and the development of experimentation on humans was too tight and effective to be considered accidental. Although not all experimentations or medicalized selections in the camps were leading directly to a confirmation of beliefs in racial hygiene, we find a range of remarks indicating that the camps became quickly perceived as laboratories offering unique opportunities.

Programs of experimentation on prisoners were not usually pushed from above but developed from below by doctors who had perceived

the exceptional experimental possibilities offered by the camps. For instance, on 15 May 1941, Dr. Rascher wrote Himmler that during a medical course on the effects of high-altitude flying, “considerable regret was expressed that no experiments on human beings have so far been possible for us because such experiments are very dangerous and nobody is volunteering. I therefore put the serious question: is there any possibility that two or three professional criminals can be made available for these experiments?”<sup>57</sup> Rascher was soon informed “that prisoners will, of course, be gladly made available for the high-flight researches.”<sup>58</sup>

Rascher was not alone in perceiving the camps as sources of an unlimited number of “experimental subjects.” At the Nuremberg Trials, the defense argued that prisoners had been experimented upon not only because of the dangerous nature of these tests, but mostly because prisoners provided a perfectly normalized experimental population: they all shared the same accommodation, diet, hours of sleep, and clothing.<sup>59</sup> The exceptional features of the camp system in terms of medical research were also noticed by some of the prisoner doctors. For instance, Dr. Nyiszli remarked that both because of the concentration of people and because of the extremely poor sanitary conditions, diseases like gas gangrene were easily found and “most promising” remedies had been developed.<sup>60</sup> Also, he remarked that the camp “offered vast possibilities for research, first in the field of forensic medicine, because of the high suicide rate, and also in the field of pathology, because of the relatively high percentage of dwarfs, giants and other abnormal types of human beings. The abundance—unequaled elsewhere in the world—of corpses, and the fact that one could dispose of them freely for purposes of research, opened even wider horizons.”<sup>61</sup>

Lifton’s work indicates the pervasive role of physicians in the camp system: they were in charge of the selection of incoming prisoners at the ramp, of the routine selections of “sickly” or “infectious” inmates, and of pouring Zyklon-B reagent in the chambers. He also shows that camp hospitals were death rows, that Red Cross vans were usually employed to take the prisoners to the “disinfection” chambers, and that the cans of Zyklon-B gas (stored in the camp’s pharmacy together with the phenol used for lethal injections) were usually brought there in Red Cross ambulances.

By looking at Lifton’s evidence through eyes informed by Proctor’s analysis of the discourse of racial hygiene and by Ophir’s proposal, one

may disagree with Lifton's conclusion that "real" medicine was not implicated in the Final Solution and that Auschwitz was only a travesty of a medical institution. Instead, one may begin to see Auschwitz not only as a slave labor camp for I. G. Farben and an extermination center, but also as a medical research institution which both embedded and helped to confirm Nazi theories of racial hygiene. What is most striking is that these different functions went hand in hand.

It is in the context of these processes of mutual legitimation of the institution of the concentration camp and the discourse of Nazi racial hygiene that we may consider some of the representations of Mengele's work as a researcher. For instance, his captive assistant, Dr. Nyiszli, has exposed Mengele's cruelty but has not dismissed his scientific methodology. Nyiszli's diary is full of oscillations between a view of Mengele's research as pseudo-science and a respect for Mengele's careful scientific method, bordering on fanatical precision.<sup>62</sup> In a few isolated cases, it seems that Nyiszli even became involved with Mengele's research enough to share in some of his excitement about discoveries in the peculiarities of twins.<sup>63</sup>

Similarly, when interviewed by Lifton, Dr. Teresa W. expressed her inability to put together the picture of the Mengele who sent thousands of people to the gas chambers everyday (besides those he killed for his scientific experiments) and that of the Mengele whose scientific method she considered "more or less standard for the time, the norm for anthropological work"; she "recognized it as the same approach she had been trained in at her Polish university under a distinguished anthropologist with German pre-Nazi academic connections."<sup>64</sup> On a different occasion, Teresa W. confirmed her views on Mengele as somebody having a genuine scientific background and "absolutely capable of doing serious and appropriate scientific work" although she detected in him the same fanaticism for accuracy that Nyiszli had also noticed.<sup>65</sup>

I am not presenting the views of Nyiszli or Teresa W. on the scientific soundness of Mengele's method as final. The very few prisoners who managed to survive Mengele—some of whom had a medical background—expressed much different views of his science.<sup>66</sup> However, the limited evidence we have from Drs. Teresa W., Nyiszli, and Abraham (Mengele's captive radiologist) makes it possible, I think, to question the usual dismissal of Mengele's scientific credentials. Obviously, I am not doing so to reevaluate Mengele, but to point at the dangerous naiveté of the historiography that tries to prevent science

from being implicated in the Final Solution by claiming that Nazi doctors were just ignorant, fraudulent, or methodologically incompetent scientists.<sup>67</sup>

I find Teresa W.'s remarks unusually significant. They indicate that certain anthropological methodologies that before World War II were considered scientifically legitimate also outside of Germany (including one that she said stressed "the biological foundation of the social environment"<sup>68</sup>) could lead to disaster. In particular, I think we should try to understand what prevented her from seeing that the anthropological theories and methods in which she was trained and continued to believe even while in Auschwitz were actually much implicated in the culture that had sent her to the camp.<sup>69</sup> I am not saying that Dr. Teresa W. was naive in not realizing the complicity of the science she was practicing in the culture that managed to represent her as somebody whose life was not worth living. Her perceptions cannot be dismissed as short-sighted but may be read, instead, as the "natural" result of social processes of legitimation of scientific discourse—processes that keep playing a crucial role in today's culture.

Although this sketch is very far from being a full-fledged approach to the science produced in the camps, it suggests that the processes (though not the results) of Nazi science were not exceptional. As I have argued in much of this chapter, they were neither normal (in Nolte's sense) nor exceptional (in Habermas'). They were certainly problematic, as problematic as are the norms (and the agenda behind them) by which many of the received views of Nazi science are trying to argue for the normality or exceptionality of Nazi science. Such a taxonomical exercise will not solve our problem, which is to understand how science became (and could again become) implicated in a tragedy such as the Final Solution.

- potential “microfascism” of “turning to destruction, abolition pure and simple, the passion of abolition.” Deleuze and Guattari, *A Thousand Plateaus*, pp. 229ff.
29. An example of this formulation is R. Krauss’s rewriting art history according to an uncritical reception of Lacanian psychoanalysis. In asserting that the historicism of Ernst Gombrich relied on the optical and geometrical model of an “essentially mimetic account of art’s ambitions, of the artist’s enduring struggle to replicate for others the optically registered panorama of what he sees,” Krauss invokes the Lacanian “counterschema” of modern painting’s being about the metaphysical “desiring subject [who] has a horror of seriality, of replication, of substitution, of the copy.” It is as if one goes from the smoothing/integration of the sublime in Gombrich to the equally absorptive “negative” of the “seriality of the object,” a replacement which does away with painting as an object’s capacity to elicit in a viewer an effect which is not “historical.” In other words, the “is it happening?” is crushed by the elimination of what Lyotard calls the possible “discrepancy between thought and the real world.” See R. Krauss, “The Future of an Illusion,” in *The Future of Literary Theory*, ed. R. Cohen (New York: Routledge and Kegan Paul, 1989), p. 288; and Lyotard, “The Sublime and the Avant-Garde,” p. 38.
  30. Lyotard, “The Sublime and the Avant-Garde,” p. 40.
  31. See J. F. Lyotard, “Presenting the Unpresentable: The Sublime,” *Artforum* (April 1982), 67.
  32. J. F. Lyotard, *Des dispositifs pulsionnels* (Paris: Union Generale, 10–18, 1973), p. 88.
  33. For a brilliant analysis of this concept, see the essay cited earlier by Charles Levin.
  34. Lyotard, *The Differend*, p. 13.
  35. *Ibid.*, p. xii. See, in this context, the apocalyptic scenario of Baudrillard, particularly the idea that this nonexistence of affirmative or positive cultural universals has been inverted to the benefit of the negative: “We are in a state of excess . . . which incessantly develops without being measured against its own objectives . . . impacts multiplying as the causes disintegrate.” Jean Baudrillard, “The Anorexic Ruins,” in *Looking Back on the End of the World* (New York: Semiotexte, 1989), p. 28.
  36. Lyotard, *The Differend*, p. 89.
  37. *Ibid.*, p. 97; Habermas, *The New Conservatism*, p. 193.
  38. Lyotard, *The Differend*, p. 98.
  39. Karl Bohrer, “The Three Cultures,” in *Observations on “The Spiritual Situation of the Age,”* ed. Jürgen Habermas (Cambridge, Mass.: MIT Press, 1985), p. 154.
  40. Lyotard, *The Differend*, p. 100.

41. *Ibid.*, p. 101.
42. J. P. Faye’s *Langages totalitaires* (Paris: Hermann, 1972) is exemplary on this line of thought.
43. J. F. Lyotard, *Driftworks* (New York: Semiotexte, 1984), p. 36.
44. Lyotard, *The Differend*, p. 101.
45. *Ibid.*
46. Such judgments continue the practice of inoculation, as Barthes persuasively argued in *Mythologies*, which here amounts to evading what is not reducible to law.

## 12. Science, Modernity, and the “Final Solution”

Acknowledgments: My thanks to Joel Braslow, Arthur Caplan, Sande Cohen, Saul Friedlander, Wulf Kansteiner, Michael Kater, Tom Laqueur, Kristie Macrakis, Benno Müller-Hill, Robert Proctor, Randy Starn, and Norton Wise for having read and criticized versions of this paper. Special thanks to Nancy Salzer for the many discussions that helped the writing of this piece all along.

1. On the possible reasons for this gap see Michael K. Kater, “The Burden of the Past: Problems of a Modern Historiography of Physicians and Medicine in Nazi Germany,” *German Studies Review*, 10 (1987), 31–56; Robert N. Proctor, *Racial Hygiene* (Cambridge, Mass.: Harvard University Press, 1989), pp. 309–310; Benno Müller-Hill, *Murderous Science* (Oxford: Oxford University Press, 1988), p. 98. For a review of recent German literature on the topic see Thomas W. Maretzki, “The Documentation of Nazi Medicine by German Medical Sociologists: A Review Article,” *Social Sciences and Medicine*, 29 (1989), 1319–32. On the conference on the use of data from Nazi hypothermia experiments, see Isabel Wilkerson, “Nazi Scientists and Ethics of Today,” *New York Times*, Sunday, 21 May 1989, p. 17. The proceedings of the conference will appear as *Monstrous Medicine*, a volume edited by Arthur Caplan for Oxford University Press.
2. Robert K. Merton, “Science in the Social Order,” *Philosophy of Science*, 5 (1938), reprinted in *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1973), pp. 254–266. The relationship between science and democratic order and values in Merton’s work is at the center of David Hollinger’s “The Defense of Democracy and Robert K. Merton’s Formulation of the Scientific Ethos,” *Knowledge and Society*, 4 (1983), 1–15. On the same topic, see also Everett Mendelsohn, “Robert K. Merton: The Celebration and Defense of Science,” *Science in Context*, 3 (1989), 282–291.

3. J. D. Bernal, "Science and Fascism," in *Social Function of Science* (Cambridge, Mass.: MIT Press, 1964), pp. 210–221; Joseph Needham, *The Nazi Attack on International Science* (Cambridge, 1941). Slightly more skeptical views on the relationship between democracy and science are presented by Leo Alexander, "Medical Science under Dictatorship," *New England Journal of Medicine*, 241 (1949), 39–47. See also Proctor, *Racial Hygiene*, pp. 3–6, 338–339, and his "Nazi Biomedical Technologies," in *Lifeworld and Technology*, ed. Timothy Casey and Lester Embree (Washington, D.C.: University Press of America, 1989), pp. 17–19.
4. Bernal, "Science and Fascism," pp. 212–213.
5. A perceptive critique of this view is presented in Peter Weingart, "Science Abused?—Challenging a Legend," paper presented to the Bar-Hillel Colloquium for the History, Philosophy, and Sociology of Science, Tel Aviv, 5 March 1990.
6. Alan D. Beyerchen, *Scientists under Hitler* (New Haven: Yale University Press, 1977). More complex views on the interaction between the physicists and the Nazis are presented in John L. Heilbron, *The Dilemmas of an Upright Man* (Berkeley: University of California Press, 1986), and in Mark Walker, *German National Socialism and the Quest for Nuclear Power, 1939–1949* (Cambridge: Cambridge University Press, 1989).
7. Michael H. Kater, *Doctors under Hitler* (Chapel Hill: University of North Carolina Press, 1989), p. 240.
8. Kater, "The Burden of the Past," pp. 32–33.
9. Kater, *Doctors under Hitler*, pp. 222–240.
10. Kater's review of Müller-Hill, *Murderous Science*, in *Isis*, 80 (1989), 722–723.
11. Müller-Hill, *Murderous Science*, p. 3.
12. *Ibid.*
13. A homologous strategy can be detected also in a later article by Müller-Hill, "Genetics after Auschwitz," *Holocaust and Genocide Studies*, 2 (1987), 3–20. On p. 5, he describes Eugene Fisher—who was elected president of the International Genetics Congress in 1928—as "transgressing from science into politics."
14. Müller-Hill, "Genetics after Auschwitz," p. 11. Actually, he questions the scientific legitimacy of psychiatry to the point of posing the question: "Is the psychiatric view of mankind possibly a view permeated and obscured by destructive drives?" "Genetics after Auschwitz," p. 12.
15. Müller-Hill, *Murderous Science*, pp. 50, 75.
16. For instance, Müller-Hill links the psychiatrists' success in getting their (in his eyes quite illegitimate) profession recognized as an academic discipline in 1941 to the previous "success" of the euthanasia program. Müller-Hill, "Genetics after Auschwitz," p. 12.
17. *Ibid.*, p. 13.

18. "In much of the scientific output of Weimar biologists, as well as in their social perceptions, genetics was indistinguishable from scientific eugenics. Any demarcation that was to be made was not between genetics and eugenics, but among the different factions of eugenicists." Paul Weindling, "Weimar Eugenics: The Kaiser Wilhelm Institute for Anthropology, Human Heredity and Eugenics in Social Context," *Annals of Science*, 42 (1985), 307.
19. Weindling, "Weimar Eugenics," pp. 304–311. I am referring to Weindling's evidence, not to his argument, which in fact tries to argue that there was a discontinuity between Weimar and Nazi eugenics and that Weimar eugenics should not be seen as a cause of the Final Solution.
20. Robert Jay Lifton, *The Nazi Doctors* (New York: Basic Books, 1986).
21. Lifton re-presents this basic thesis unchanged in *The Genocidal Mentality* (New York: Basic Books, 1990), a book coauthored with Eric Markusen, which proposes a comparative analysis of Nazi and nuclear Holocaust mentalities. See, in particular, pp. 103–106, 161–166.
22. Lifton, *Nazi Doctors*, p. 11.
23. *Ibid.*, p. 345.
24. "At the heart [of Lifton's work] is the transformation of the physician—from the medical enterprise itself—from healer to killer" (*ibid.*, p. 5). The concern for the institutional and psychological dynamics that bring this inversion about are also analyzed in Lifton's *Genocidal Mentality*, esp. pp. 98–191.
25. Lifton, *Nazi Doctors*, pp. 356–359.
26. Bettelheim in Miklos Nyiszli, *Auschwitz: A Doctor's Eyewitness Account* (New York: Fell, 1960), p. xvi.
27. The differences between Bettelheim's and Lifton's views on Nazi science are spelled out in Bettelheim's review of *The Nazi Doctors*, "Their Specialty was Murder," *New York Times Review of Books*, 15 October 1986, p. 62.
28. *Hippocratic Writings*, ed. Geoffrey E. R. Lloyd (Harmondsworth, Middlesex: Penguin, 1978), p. 20.
29. For examples of this problem in contemporary medical research, see Henry K. Beecher, "Ethics and Clinical Research," *New England Journal of Medicine*, 274 (1966), 1354–60.
30. Alexander Mitscherlich and Fred Mielke, *The Death Doctors* (London: Elek, 1962), pp. 322–330. Some of this literature is reproduced in *Nuremberg Military Tribunals, Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law No. 10* (Washington, D.C.: U.S. Government Printing Office, n.d.) (hereafter referred to as *NT*), II, 95–110.
31. Mitscherlich and Mielke, *The Death Doctors*, pp. 326–327. The cases most frequently cited by the defense were those of eight hundred inmates

- of the Illinois State Penitentiary, the New Jersey State Reformatory, and a Georgia penitentiary used as “voluntary” experimental subjects in research programs on malaria (one of them directed by the University of Chicago); and the study on pellagra conducted in 1915 by Dr. Goldberger on twelve “condemned volunteers” of a Mississippi jail (Mitscherlich and Mielke, *The Death Doctors*, pp. 41–47, 346–347; *NT*, II, 95). Beecher’s “Ethics and Clinical Research” updates this scenario by presenting a survey of twenty-two recent medical case studies published in American academic journals and based on unethically conducted research.
32. Proctor, *Racial Hygiene*, pp. 3–5, 34–35, 38–39, 284.
  33. *Ibid.*, pp. 30, 38, 45, 47, 297.
  34. On this process, see also Sheila Faith Weiss, “The Race Hygiene Movement in Germany,” *Osiris*, second series, 3 (1987), 193–236.
  35. Proctor, *Racial Hygiene*, pp. 292–293.
  36. The terms *democracy* and *democratic* are so connoted that some qualification is probably needed in order not to reproduce some of the many mythologies attached to them. I use these terms in a quite narrow sense: to indicate access to arenas where science and policies about science are negotiated. I am not suggesting that a scientific community in which all social constituencies were democratically represented would develop a “rational dialogue” by which “consensus” about what “good” science is and about how it could be produced and used could be established. I am simply suggesting that failure to establish this basic level of access would be likely to lead to dangerous scenarios.
  37. Proctor, *Racial Hygiene*, pp. 62–63.
  38. Pierre Bourdieu, *Choses dites* (Paris: Minuit, 1987), p. 32.
  39. Jack Goody, *The Domesticization of the Savage Mind* (Cambridge: Cambridge University Press, 1977).
  40. This is a view of history of science (and of history) which admits that, eventually, the present is the historian’s only term of reference. However, this limitation does not imply that the present is either a “fact” or the “necessary” result of historical dynamics. The present (or any other historical scenario) is a problematic artifact—one that has to be interpreted in the process of interpreting the event that happens in it.
  41. Ernst Nolte, “Between Myth and Revisionism? The Third Reich in the Perspective of the 1980s,” in *Aspects of the Third Reich*, ed. H. W. Koch (London: Macmillan, 1985), pp. 17–38, esp. pp. 36–38.
  42. On the problems of the use of analogy in interpreting the Final Solution, see Charles S. Maier, *The Unmasterable Past* (Cambridge, Mass.: Harvard University Press, 1988), pp. 66–99.
  43. Jürgen Habermas, *The New Conservatism* (Cambridge, Mass.: MIT Press, 1989), esp. pp. 209–267.

44. On some of the possible links between the discourse of modernity and the Final Solution see Berel Lang, *Act and Idea in the Nazi Genocide* (Chicago: University of Chicago Press, 1990), pp. 165–206.
45. Muller-Hill’s strategy is somewhat different from that of Kater and Lifton. Probably because of his being trained in and practicing a “hard” science like molecular biology rather than medicine (the type of science practiced or discussed by Lifton and Kater), Muller-Hill seems to assume that good, pure, “hard” science (like genetics) should not produce values at all.
46. On this debate, see Arthur Caplan, *Monstrous Medicine*, and Isabel Wilkerson, “Nazi Scientists and Ethics of Today,” *New York Times*, Sunday, 21 May 1989, p. 17.
47. Nolte, “Between Myth and Revisionism?” pp. 34–36.
48. Ludwik Fleck, *Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press, 1979). Important similarities between Fleck’s and Kuhn’s work are acknowledged by Kuhn in the preface to *Structure*. On Fleck’s life and publications, see Thomas Schnelle, “Microbiology and Philosophy of Science, Lwow, and the German Holocaust: Stations of a Life—Ludwik Fleck, 1896–1961,” in *Cognition and Fact: Materials on Ludwik Fleck*, ed. Robert S. Cohen and Thomas Schnelle (Boston: Reidel, 1986), pp. 3–36.
49. Ludwik Fleck, “Problems of the Science of Science,” translated and reprinted in Cohen and Schnelle, *Cognition and Fact*, pp. 113–127. Special thanks to Simon Schaffer for having mentioned, photocopied, and sent me this article.
50. *NT*, I, 508–631; Mitscherlich and Mielke, *The Death Doctors*, pp. 117–164; Eugene Kogon, *The Theory and Practice of Hell* (New York: Farrar, Straus, n.d.), pp. 143–161.
51. Fleck, “Problems of the Science of Science,” pp. 118–120; Schnelle, “Microbiology and Philosophy of Science,” pp. 26–27.
52. Fleck, “Problems of the Science of Science,” pp. 120–121.
53. *Ibid.*, pp. 121–127.
54. The term *discourse of racial hygiene* may seem problematic because historiography on the subject has indicated a range of discontinuities between early twentieth-century German eugenics and the racial hygiene endorsed by the Nazis. However, my concern here is not to evaluate the continuities and discontinuities at the level of the protagonists’ statements about the social and human implications of their theories. Rather than looking at statements of intent of the scientists who developed these theories, I am interested in focusing on the conceptual structure of theories of racial hygiene—what Sheila Faith Weiss has called the “logic” of eugenics. Without claiming that there is something intrinsically “evil” about biological theories about race and disease, I want to stress that there was

(and is) something about their conceptual structure that allowed for the interpretation and application of these theories in ways that may have been very different from those of the initial developers. On German eugenics see Sheila Faith Weiss, "The Race Hygiene Movement in Germany"; Peter Weingart, "German Eugenics between Science and Politics," *Osiris*, 5 (1989), 260–282; and Paul Weindling, *Health, Race and German Politics between National Unification and Nazism, 1870–1945* (Cambridge: Cambridge University Press, 1989). The development of eugenics in England and the United States is masterfully traced in Daniel J. Kevles, *In the Name of Eugenics* (New York: Knopf, 1985).

55. Adi Ophir, "On Sanctifying the Holocaust: An Anti-Theological Treatise," *Tikkun*, 2, no. 1 (1987) 64.
56. *Ibid.*, p. 65.
57. *NT*, I, 142–143.
58. *Ibid.*, p. 143.
59. Mitscherlich and Mielke, *The Death Doctors*, pp. 328–329.
60. Nyiszli, *Auschwitz*, p. 31.
61. *Ibid.*, p. 56. Related considerations can be found also at pp. 101–106.
62. For a survey of Nyiszli's conflicting views on Nazi science and on Mengele see Nyiszli, *Auschwitz*, pp. 30–31, 33, 40, 56, 61, 63, 97, 101–102, 104, 109, 171, 181, 221.
63. "I had the bodies of a pair of fifteen-year-old twins before me on the dissection table. I began a parallel and comparative dissection of the two bodies. Nothing particularly noteworthy about the heads. The next phase was the removal of the sternum. Here an extremely interesting phenomenon appeared: a persistent thymus, that is, a thymus gland that continued to subsist. . . . The discovery of the thymus gland in the twin brothers was of considerable interest." After having made more findings in the continuation of the dissection, Nyiszli reports, "I committed these curious observations to paper, in a much more precise and scientific manner than I have employed to describe them here, for my dissection report. Later, I spent a long afternoon in deep discussion with Dr. Mengele, trying to clear up a certain number of doubtful points." Nyiszli, *Auschwitz*, pp. 136–137. Nyiszli's finding another "extremely interesting collection of anomalies" is reported at p. 64. Similarly, Mengele's captive radiologist, Dr. Abraham, also referred to his "genuine passion for medical questions." Lifton, *Nazi Doctors*, p. 366.
64. Lifton, *Nazi Doctors*, p. 357.
65. *Ibid.*, p. 365.
66. Besides the evidence cited by Lifton, see Gisella Perl, *I Was a Doctor in Auschwitz* (New York: Arno, 1979), and Olga Lengyel, *Five Chimneys: The Story of Auschwitz* (Chicago: Ziff-Davis, 1947).
67. I do not mean to say that no Nazi scientist was sloppy, incompetent, or

fraudulent. For instance, a recent article by Robert Berger has indicated that Rascher—the young doctor who directed the hypothermia and low-pressure experiments at Dachau—was far from being a conscientious scientist. Robert L. Berger, "Nazi Science—The Dachau Hypothermia Experiments," *New England Journal of Medicine*, 322, no. 20 (1990), 1435–40. This type of judgment does not erase the fact that—despite his sloppy methodology—Rascher developed methods of rescue based on these experiments that, when discovered by the American troops in Germany, were immediately adopted as the treatment for use by all American Air-Sea Rescue Services still fighting in the Pacific (*NT*, II, 66). In short, science does not always need to be canonically produced to be effective. Although Berger's article is well researched and argued, it indicates a somewhat "exorcistic" agenda, that is, an attempt to show that the hypothermia experiments were "bad science" and that therefore there is no need to engage in complex and disturbing debates about the ethical problems connected to the use of these data (p. 1435). The limitations of Berger's "scientific fix" to a debate about ethics are spelled out in an editorial in the same issue of the *New England Journal of Medicine* (Marcia Angell, "The Nazi Hypothermia Experiments and Unethical Research Today," pp. 1462–64).

68. Lifton, *Nazi Doctors*, p. 357.
69. In connection with this issue, I find Primo Levi's discussion of the "gray zone" particularly useful. In fact, it shows that the analysis of the complex and disturbing dynamics between victims and culprits—dynamics that contributed in important ways to the maintenance of the camp system—does not subvert in any way the fundamental distinction between victims and culprits. Primo Levi, *The Drowned and the Saved* (New York: Vintage, 1989), pp. 36–69. I think one could adopt Levi's approach to study victims who, like Nyiszli or Abraham, became reluctantly involved in camp science or—as in the case of Teresa W.—were sympathetic to some of the anthropological theories that were actually implicated in the Final Solution. Also, a study conducted along these lines of Nazi doctors such as Rose or Ernst B., who were at some point reluctant participants in camp management or in experimentations on prisoners, may uncover important aspects of the role of science in the Final Solution without blurring the fundamental distinction between culprits and victims. (On Rose see Mitscherlich and Mielke, *The Death Doctors*, pp. 124–146; on Ernst B. see Lifton, *Nazi Doctors*, pp. 303–336.)

### 13. Holocaust and the End of History

1. Jacques Derrida, "Of an Apocalyptic Tone Recently Adopted in Philosophy," *Oxford Literary Review*, 6, no. 2 (1984), 20ff.