

The power of knowledge: race science, race policy, and the Holocaust

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Abstract

From the beginning of the scientific revolution, scientists, philosophers, and laypersons have been concerned about the effects of knowledge on social relations. Although views differ about the details of this knowledge–society interface, most observers have understood that the kind of knowledge that emanates from established science can indeed be quite powerful in practice. In exploring both the nature of race science discourse and selected features of the practical context within which it resonates effectively, the authors' investigations of this field and its contribution to the Holocaust represent an effort to specify some of the things that make knowledge powerful.

No court will ever sit where the judges will sentence choice specimens of humanity to frequent parenthood and condemn the rest to sterility; though the outcome of such an experiment would undoubtedly be interesting. (Edward M. East, 1929, p. 22)

I really must warn my Jewish fellow citizen that they ought not to get the wind up as soon as any one begins to speak of the Jewish race. This inevitably arouses the impression that they must have some reason for fighting shy of exposition of any racial questions. Yet a tranquil and objective discussion of the Jewish problem would best serve the true interests of both sides. Fritz Lenz (in Baur *et al.*, 1931, p. 674 [1921]).

The early proponents of race science (*Rassenwissenschaft*) clearly recognized and boldly proclaimed the novel intellectual perspective and eminently practical nature of their work. In 1921, citing the views of the 'Nordic thinker Kant' in support of his argument, Fritz Lenz, Professor of Racial Hygiene at the University of Munich, maintained that the field's 'outlook is fundamentally new, [it] is something to which the old classifications and catchwords are inapplicable; and in its essential nature it is not pessimistic, for it, alone, points the ways towards the *sanitation* and stable advance of mankind and human civilization' (Baur *et al.*, 1931, p. 698 [1921], emphasis added).¹

The practical science to which Lenz refers, and to which he and his academic colleagues contributed significantly, emerged in Germany, other parts of Europe, and the USA, during the World War I era. As the international field of race science

developed through the 1920s, its practitioners both contributed to and were influenced by a general shift in Western culture from a religious to a quasi-objective, racial anti-Semitism. This paper seeks to advance our understanding of one of the most consequential aspects of this shift, the linkage between race science, race policies, and the Holocaust.

In the course of this discussion, the authors briefly review the history of the race concept from its roots in evolutionary theory to its refinement in the works of the leading race scientists of the era, especially Lenz, Eugen Fischer, and their immediate associates. In addition, the authors examine the linkages between racial explanations and the closely-related climate-based theories of geographers and social psychologists working in the same period. By expanding the scope of our investigation in this manner, we are able to forge what the authors believe is a more complete account of the manner in which Nazi policies of racial hygiene were formulated. That is, they were based not on ignorant prejudice or on the paranoid delusions of a madman, but rather on the findings of what was at the time considered to be rigorous and authentic scientific research conducted by highly respected professional scientists.

Thus, the authors seek to demonstrate that the Holocaust was, to a considerable extent, scientifically ‘justified’² The mutual impacts between race science and race policy, and the manner in which these in turn contributed to the pursuit of state-sponsored genocide, provides what the authors believe to be an especially clear, not to mention disturbing, illustration of the kinds of conditions under which knowledge is power, or power is knowledge.³ In light of recent revelations that for several decades the government of Sweden sterilized thousands of ‘useless’ citizens (Balz, 1997), it is evident that the impulse to employ science to justify the abuse of human rights remains difficult to resist (for an earlier account, see Freiburg, 1993).

1. *From the sacred to the scientific*

The long-standing legacy of anti-Semitism in Western culture contributed significantly to the rise of National Socialism in Weimar Germany, and to the conditions that made possible the slaughter of Jews during the years of Hitler’s fascism.⁴

The historian Heinrich Treitschke’s slogan, ‘*Die Juden sind unser Unglück*’ (the Jews are our misfortune), that later appeared on the masthead of Julius Streicher’s notorious anti-Semitic rag *Der Stürmer*, methodically summarized this connection by providing: (1) a readily comprehensible diagnosis of the cause of Germany’s post-World War I material and spiritual malaise; and (2) an implied therapy—i.e. to create a Jew-free or Jew-cleansed (*judenfreie, judenweine*) nation—a therapy that was, in fact, ultimately put into practice.

It is equally evident, however, that the effective execution of the *judenrein* policy depended upon the development of a clear, readily applicable and practical standard whereby individuals could be reliably assigned to the categories *Jew* and *non-Jew*, an operational definition, so to speak, of those who were (and were not) agents of Germany’s ‘*Unglück*’. As inscribed and explicated in the ‘Nuremberg Laws’ of 1935, the solution came via the invocation of hereditary principles elaborated in biological discourse, whereby people were categorized on the basis of the *racial* identity of their ancestors⁵

It has been widely observed that this standard represents a significant departure from traditional forms of anti-Semitism (see for example Katz, 1980; Gilman, 1996, ch. 2).⁶

For nearly two millennia the Jews of Europe had been viewed as ‘different’ (marginals, outsiders, and in many instances pariahs) because they refused to accept Christ as their Messiah and, according to Church doctrine belatedly revoked in 1968, because they were responsible for the Saviour’s death. Although these beliefs and the exclusionary practices based on them made life difficult for Jews, they also allowed for the possibility of exculpation through conversion. Moreover, since even a Jewish mother and father could produce a Christian child, the religion of one’s parents was not necessarily grounds for exclusion, persecution, or execution. ‘The world without Jews’ envisioned by European Christians prior to World War I was one in which all former Jews will have joined the faith—or, as in Karl Marx’s (1960 [1844]) secularized formulation, will have stopped behaving ‘like Jews’.

The religious motives and rationale for the special treatment of Jews reflected the medieval world view in which human affairs generally (and natural events as well) were primarily interpreted and managed in spiritual terms. The Jewish problem was posed as a matter of erroneous belief that, like other sins, could be corrected through confession, repentance, and related spiritual conduct. By the turn of the twentieth century, however, natural science’s growing distancing from and challenges to Church doctrine, which began centuries earlier and had more recently been expressed in biological enquiry via the quickly popularized Darwinian Revolution, was extended to the relations between Christians and Jews. Thus, these intellectual transformations ultimately contributed to a kind of secularization (or, more accurately, ‘scientification’) of the relations between Jews and Christians.

By the early Weimar Republic, indeed not only in Germany but throughout the Christian world,⁷ it was not uncommon to define a Jew as anyone who belonged to the Jewish ‘race’ and, by virtue of immutable biological laws—explicated, for example, by Mendel and by Galton (1962 [1892]), could produce only Jewish offspring. As evidenced by the growing concern with measuring physiognomy for classificatory purposes and other reasons (Efron, 1994), this conception implied that Jews could be identified in terms of anthropometric indices—especially nose length, size of ears, head shape, skull capacity, shape of face, inclination of the brow, degree of prognathism, and foot shape (Gilman, 1991). In this manner, religious, intellectual, or ‘cognitive’ anti-Semitism came to be increasingly displaced (although obviously never entirely replaced) by racial anti-Semitism.⁸ It follows from the racial concept that the objectionable ways of the Jews, because they are lodged in the blood, are beyond repair by mere ‘cultural therapies’. A more ‘material’, more objective and quantifiable criterion now differentiated human groups. In this respect, a *judenfreie* nation (or continent or world) means the physical exclusion or elimination of an entire gene pool.

This dramatic shift from religious to biological anti-Semitism is one of the elements that sets the Holocaust apart from earlier instances of Jewish persecution and genocide;⁹ for it automatically condemned the religious and the irreligious, the orthodox and the convert, and the dead, the living, and the unborn to a common fate.¹⁰ The slaughter that occurred during the Holocaust was thus, in part, the result of the prevailing definitions of the intended victims, definitions that were now cast in categorical and inalterable ‘scientific’ terms. Although the astounding scale that was achieved was also very much a function of the application of bureaucratic procedures and mass-production techniques to the task at hand, in the context of a totalitarian regime.¹¹

Moreover, since the ‘problem’ was now viewed as one of heredity rather than creed—racial degeneracy not false belief—it became possible to subject other perceived enemies of the Reich to similar treatment as *Entartete Rassen* (degenerate races), even

those such as Slavs, Romani, and Sinti who are officially Christian (Burleigh and Wippermann, 1991, Ch. 5).¹² By equating the concept of *Volk*, one of whose definitions is ‘race’ in the pre-Darwinian sense, with *Rasse*, the Nazis were able to claim all Aryans as *Herrenvolk* (a master race) even if they were not especially exemplary Christians in the traditional sense.

The situation is summarized succinctly in the section on ‘Racism and anti-Semitism in Germany’ in the *Yad Vashem Guidebook* (1995, pp. 13–14):

Racism added new and substantial dimensions to traditional anti-Semitism. In the past, hatred of Jews had had specific grounds and certain lines of development. The hatred nurtured by ancient Christian concepts regarded the Jews as the people of Israel and the people of the Messiah, but also as the people who had rejected its Redeemer, Jesus, and thus had condemned itself to ostracism and the eternal enmity of the Christian world. The Jew had to be kept in a state of servitude, misery, and degradation. Moreover, their eternal wandering among the nations forever at the mercy of the Christians, seemed to confirm the veracity of Christian teachings. Later, anti-Semitism was reinforced by a greater stress on economic, social and political factors. Racial anti-Semitism, linked with a misinterpretation of Darwin’s views of society lent a new validity to traditional Jew-hatred. According to Nazi theorists, the danger arising from contact from the evil, perverted Jews, sprang not from their mistaken beliefs or their economic role, nor even from their tendency to live as a closed social group, but from their very identity, their tainted Jewish blood.

2. *Rassenwissenschaft* as practical knowledge

Holocaust scholar Michael Berenbaum (1993, p. 31) notes that:

under Nazism eugenics became national policy. So-called racial sciences were taught in the universities. The teaching of medicine, biology, history, anthropology, and sociology was perverted to support the pseudo-science of racial theory. The Nazi regime eventually established thirty-three university and research institutions, eighteen university professorships, and four research divisions within the Reich Health Offices dedicated to ‘racial hygiene’. The Nazi-appointed rector of the University of Berlin (a veterinarian and member of the storm troopers [i.e. Eugen Fischer]) introduced twenty-five courses in ‘racial science’ into the curriculum.¹³

The granting of scientific legitimacy to the concept of *race* and its use in explaining a group’s beliefs and behaviour were (and remain) essential prerequisites to the legalization and promotion of eugenics and euthanasia. Such practices, in combination with hierarchical principles adapted directly from Darwin’s discussion of speciation, to the effect that some species (and thus races) are well-developed whereas others are degenerate,¹⁴ turned the practice of state-sponsored genocide into a modern technological undertaking (Horowitz, 1980). In this sense, race science in Nazi Germany was first and foremost a policy science or a form of practical knowledge (Stehr, 1992).

Although Berenbaum refers as noted to *Rassenwissenschaft* as pseudo-science, there is good reason to resist such labels.¹⁵ Race science, and in particular the view that race is the cause of mental and behavioural traits, had by the early 1900s gained considerable scholarly legitimacy in Germany and throughout Europe and North America. The writings of Herbert Spencer (1862) and, especially, Arthur de Gobineau (1915)¹⁶ had begun to influence academic and popular thinking along these lines decades before the publication of Houston S. Chamberlain’s 1968 [1900] landmark work on racial differences (Biddis, 1970). Whereas the line of enquiry may have been thoroughly discredited, in one form or another, racial explanations still prevail in several quarters of the *contemporary* academic establishment (Barkan, 1992).

The race scientists of Germany and other countries, especially if we augment the category—as the authors are suggesting—to include the writings of climate determinists

of the same era, managed to produce an enormous body of literature. Although there is a selective lack of data to substantiate certain claims, as well as immense leaps of faith in interpreting some of the information gathered, these works all aspired to be rigorously 'scientific' and to be critically judged by the accepted scholarly standards of the day.

In their attempts to amass volumes of quantitative evidence to illustrate and justify their theories, these scholars saw their work as leading-edge science. Indeed, at first glance, the works of race scientists and climate determinists contain an imposing range of evidence: naturalistic, experimental, and survey-based. The level of discourse is sophisticated, the arguments apparently conform or endeavour to be close to the then-prevailing logic of science, and the conclusions that are drawn seem to be sound. Any serious criticism that is demanded of the field, so it seems, must at least meet the same standards. This is not the racism and anti-Semitism of the beer hall; it is indeed science—of a sort, and it was widely interpreted to represent the best in modern thought.

However, race science—as well as modern climate determinism—is more. It always aspires to be practical; it is almost driven to engage practical contemporary problems and it desires to formulate public policies. Its aspirations and its historical and intellectual roots are drawn from applied science, in the sense of having an inherent political agenda that addresses major social and political problems of the day. Although characterized by its proponents and pursued as a nomological undertaking, its prominence and popularity did not result from the strength of its scientific rigour. By these criteria, it was no more successful than other, competing, approaches; nor, and this is an important matter, was it probably any *less* successful. Rather, race science succeeded—to some extent wherever it was/is pursued but especially so in Weimar and Nazi Germany—because it had practical applications that appeared to be effective and to resonate with salient public and private troubles of the day: first, in the management of the affairs of everyday life for citizens and in the foreign affairs of government; later as the centrepiece of state domestic and military policy.

In Germany, race science's practical aspirations and success were also reinforced and supported by a host of intermediary social organizations. Of perhaps greatest significance are the nationalistic (*wölkische*) social movements that embraced race science, promoting it widely in society and championing its policy implications.¹⁷

As a result, in many instances the boundaries between scientific and political agendas became almost indistinguishable, as did the individual scientific objectives and the personal ideological ambitions of the race scientists.

Since the days of Gobineau's *The Inequality of Human Races* (1915), race science has been (and remains) a policy-driven field. It was never merely a classificatory/explanatory framework, although Herbert Spencer as well as Max Weber among others have argued the case for a 'neutralist' position.¹⁸ The field *is* meant to explain why people behave as they do, but in such a way that practical measures can be set into motion in order to control or rectify behaviour. True to its base in Darwinian natural science, it is concerned with the effects of breeding, and thus establishes the crucial linkage between heredity and social conduct. As confirmed by Fritz Lenz (in Baur *et al.*, 1931 [1921]) and later by the US geneticist Thurman Rice (1929), the entire racial issue would be without any significance whatsoever if racial differences were confined to anatomical differences. Decisive therefore are the 'spiritual' attributes of the races. That is, attributes which, as Lenz admits, cannot be measured with the same technical devices employed to quantify organic features.¹⁹ Nevertheless, as Eugen Fischer (in Baur *et al.*, 1931, p. 181 [1921]) summarized the position of this group, 'the various races

of man differ from one another to an extraordinary degree in mental respects no less than in bodily'. Lenz (in Baur *et al.*, 1931, p. 655 [1921]) categorically summarizes the matter of mental gifts as 'the Nordic race marches at the very front of mankind'.²⁰

As practical knowledge, the understanding of this relationship between heredity and 'spiritual' attributes is driven by an interest in population control, the rise and decline of civilizations, progress, 'the quality of people', health and energy: that is, the preservation of the 'best' social traits through selective breeding. 'Just as scientific therapeutics is impossible without a thorough grounding in human anatomy, physiology and pathology', notes Erwin Baur (in Baur *et al.*, 1931, p. 10 [1921]), 'so there must be a broad foundation of natural science for the study of human sociology, for any fruitful attempt to solve the problems of population, and for our endeavors to promote racial hygiene (eugenics)'. It comes as no surprise that the most prominent proponent of modern climate determinism, the Yale geographer Ellsworth Huntington, is also the author of *Tomorrow's Children: The Goal of Eugenics* (1935) and served as the President of the American Eugenics Society from 1934 to 1938 (see also Hankins, 1926).

The interest among race scientists in asymmetries and hierarchies was also the product of practical concerns, as identified by popular writers such as Hans F. Günther, often called the canonical race theorist (Günther, 1927; also see Kolnai, 1977). Not only can the differences in the way people act be traced to their varying genetic heritages, but it was clear to the race scientists that lineages differ according to how well adapted they are to their environments, including their socio-cultural environments when behaviour is factored in. It therefore follows that at a particular time and place some races will be more advanced than others. This is generally operationalized in terms of cultural, economic and/or political relations of domination-subordination; one group or nation rules over, is wealthier than, or is larger in size than another by virtue of natural (i.e. racial) advantages.

When Northwestern Europe was experiencing its greatest era of imperial prosperity, the task remained for race scientists from Gobineau to Fischer to explain (and justify) why this was the case: because the region was populated by the most advanced races. When conditions began to deteriorate at home and abroad, these same explanations served to provide: (1) a rationalization—inferior races were exercising undue influence on public policy, and their genes were mixing too freely with those of the more advanced races; and (2) a solution—social control and, when necessary, euthanasia for the living and genetic control for the unborn. The audiences whom the race scientists addressed did not need to establish, nor did they enquire into, the validity and reliability of these views. They were offered secularized and sanitized arguments (world views), couched in terms of the most trusted discourse of the day, namely scientific discourse.

Despite the apparently impeccable scientific rigour and other intrinsic scholarly properties of the manner in which race discourse was framed and executed, these attributes were by no means sufficient for the granting of extraordinary academic legitimacy to the study of race nor, in Nazi Germany, for its elevation to a unique position of societal prominence and translation into practical knowledge. Rather, its acceptance was the result of three features *extrinsic* to the academic discipline: (1) it provided continuity between traditional conceptions of national character, *Volksgeist*, and acknowledged, modern naturalistic theories and methods of establishing facticity;²¹ (2) its accounts resonated with common-sense perceptions of the physical and behavioural differences between groups; and (3) it had direct practical applications (initially realized in the Nuremberg Laws).

The Holocaust was the result of public policy decisions made in the presumed

interests of benefiting the German totalitarian regime. These decisions were science-based, and the scientific discourse was nurtured by decision-makers with a level of complementarity rarely achieved in any political regime:²²

According to Nazi theory, humanity is not a homogeneous unit, and the human race has no common denominator. Those who spoke of the unity of the human race were intent on falsifying the truth, and they denied the existence of races and refused to recognize the constant conflicts between them. Phrases about the common destiny of mankind were ridiculous, as absurd as talk of a partnership between men and insects (*Yad Vashem*, 1995, p. 14).²³

In race science terms, this doctrine was known as *polygeneticism*, and it had become the dominant approach of physical anthropologists, especially in Germany, by the mid-1920s. In this context, the concept of *Lebensraum* is uniquely illustrative of the intimate meshing of physical anthropology, *qua* race science, and politics in Germany.

3. *The scientific and political meanings of Lebensraum*

Like other regimes with imperial aspirations, Hitler's Germany deemed it necessary to reclaim or claim anew sovereignty over, and to colonize, territory not within its national boundaries. For most of history such policies had been justified by what has become known as versions of *Realpolitik*, that is, some combination of political, economic, religious, and cultural interests—as was the case in the making of the British Empire. By the end of the nineteenth century, however, imperialism and colonialism had developed a social Darwinian superstructure, after the fact that the then-current world order was understood to reflect the outcome of evolutionary selection. Chamberlain's account is formative in this regard. When Germany at last 'awoke' to the prospect of imperial expansion, its policy-makers simply took the new rationale to the next level. Annexation and colonization were deemed to be racial imperatives.

In the case of German expansionist policies, these principles were applied in two distinct phases. First, prior to the invasion of Poland in September 1939, each case of Nazi territorial conquest was justified as a step toward the consolidation of the dispersed German population/Aryan race. It was argued that the German natural *ecumene* had unfortunately been dissected by artificial national boundaries, and that what appeared to the outside world as imperialism was actually the restoration of Aryan living space.

The period that began with the opening of the Polish campaign marks a major policy shift. From that point until the end of the War, the notion of *Lebensraum* was adduced as the ideological principle in support of expansion *beyond* the then-current *ecumene*. As first argued by Hitler in *Mein Kampf* (with surprising cogency as we know), if a particular race is the fittest to survive and to rule over other races, then it must ensure that it has domain over sufficient territory to satisfy evolutionary imperatives. It is stressed here that this claim, in contrast to traditional arguments that emphasize benefits that pertain to the substructure of society, enlargement of a religious community, and the like, is subject to scientific resolution. It appeals not to greed nor to spiritual passion, but to reason.

The truth and the efficacy of *Lebensraum* as a policy principle were not, as with other justifications for expansionism, manifestly arbitrary. Rather, its appeal and efficacy depended on how one defines *race* in practice, what physical and mental characteristics are understood to be associated with racial differences, what determines fitness, how much territory is sufficient, and so forth. During the three decades that preceded the writing of *Mein Kampf* (in 1924–1925), highly respected researchers and scholars in

geography, biology, anthropology, and other fields had been addressing and wrestling with these very concerns (see Gilman, 1996, pp. 30–42; Lerner, 1992, especially his discussion of Konrad Lorenz).

The classic work by Baur *et al.*, *Menschliche Erblchkeitslehre und Rassenhygiene*, was first published in 1921.²⁴ In 1928, Fischer was appointed Director of the Kaiser Wilhelm Institute for Anthropology, Human Heredity Teaching, and Eugenics.²⁵ Hitler had developed close personal ties with Germany's leading race scientists, many of whom were Nazi Party members, years before becoming Chancellor. These included Fischer, who was appointed Rector of Berlin's Humboldt University in 1933 (Wistrich, 1988). Thus, by 1935, when the race-territory connection began to be inscribed into the legal code, race science was already well established:

The two main associations of racial hygienists were 'coordinated' in the summer of 1933. This included the German Society for Racial Hygiene, which at the time had 1,300 members and twenty local groups. Many of the members were academics, including some who were also functionaries in the Racial Political Office of the NSDAP. From this time onwards, the association and its periodical, *Archiv für Rassen- und Gesellschaftsbologie*, served to enlighten others about the racial policies of the regime. The German Society for Anthropology, renamed the German Society for Racial Research in 1937, fulfilled a similar function. Moreover, members of both societies took part, either as individuals or as members of research institutes, in the drafting and implementation of racial policy measures. The most important institute was the Kaiser Wilhelm Institute for Anthropology, Heredity and Eugenics, which was established in 1928 under the auspices of the Kaiser Wilhelm Society. The KWI's directors, Eugen Fischer, Fritz Lenz, and Otmar Freiherr von Verschuer, were willing and enthusiastic conformists (Burleigh and Wippermann, 1991, p. 52)

Henceforth, Germany's foreign policy was guided by principles verified and endorsed by the nation's leading scientists.²⁶

4. *The principles of race science*

By the early days of the Third Reich, it was widely presumed that race science had demonstrated the following:²⁷

1. Several distinct human racial groups had evolved over the course of millennia with traits that reflect variable adaptations to distinct environments. In this respect, every race has an ancestral territory to whose natural conditions its traits are best suited. As we shall discuss below, contemporary social psychologists and geographers such as Hellpach and Huntington considered climate to be the principal environmental engine in this process.
2. Interbreeding had resulted in considerable variations among individuals, but dominant physical and behavioural traits are still identifiable. Thus, it is possible to place individuals within racial categories (with reasonable accuracy) through observation of anatomical and social-psychological characteristics. These observations, in combination with archaeological findings and historical records, also aid in identifying the region to which individuals properly belong.
3. Some physical traits are progressive and make a positive contribution to the survival of the species, whereas others are regressive and pose a threat to humanity's future. For example, effective hand-eye co-ordination is an evolutionary advantage over congenital neurological disorders that affect this capacity.
4. 'Spiritual' or Mental/behavioural traits are similarly associated with race and, hence, with survival prospects. 'Dealing with the human race as a whole, we can with a high degree of probability infer that an individual with frizzy hair will have

a dark skin; and, in like manner, we can with considerable probability infer that certain bodily characters will be accompanied by particular mental traits. However, certain bodily characters appear also to warrant direct conclusions regarding mental endowment. Thus the size of the forehead and the size of the head are to some extent racial characters, and we have shown that mental gifts are associated with these bodily characters' (Lenz in *Baur et al.*, 1931, pp. 687–88 [1921]).

5. Furthermore, under prevailing economic and political conditions in Europe and the world, the races clearly vary in their capacity to sustain a modern civilized life style (as signified by the *Naturvölker/Kulturvölker* dichotomy, for example). Prior to the Industrial Revolution, such matters may have been of little consequence; but, since then, the presence or lack of this capacity has had a crucial impact on inter-group and international relations. Moreover, the fact that the Industrial Revolution occurred in Northwestern Europe indicates that its native races are the most highly evolved (this is a direct extension of the Gobineau/Chamberlain thesis).
6. Methods exist that allow for intervention in the process of natural selection, so as to maximize the positive and minimize the negative traits in a national population. That is, through selective breeding (including euthanasia where prescribed), races can be 'pruned' and 'purified' in such a way that a nation's survival prospects are materially improved. The same methods can also be employed in combination with colonization to satisfy the advanced races' requirements for living space. This notion of practical intervention—the application of scientific principles to population policy—is the special contribution of the racial hygienists.²⁸

Stipulations 5 and 6 are pivotal in race science's successful forging of the link between scientific observation and public policy. The former assertion, that the races and cultures of Northern Europe are the most advanced, was supported by a long line of scholars, from Spencer and Gobineau, to Ellsworth Huntington, Edward East, Hans F. K. Günther, Willy Hellpach (1939 [1911]) and the German physical anthropologists of the 1900–1930 period—both monogenists and polygenists, as Massin notes (1996, pp. 97–100). Later, in the work of Fischer and his colleagues, this association was taken-for-granted to be accurate. As a whole, Nazi race science was increasingly concerned with the technologies of intervention featured in stipulation 6. As Fritz Lenz urges in the conclusion to *Human Heredity*, 'If we [the members of the Nordic race] continue to squander that biological mental heritage as we have been squandering it during the last few decades, it will not be many generations before we cease to be the superiors of the Mongols. Our ethnological studies must lead us, not to arrogance, but to action—to eugenics' (Lenz in *Baur et al.*, 1931, p. 699 [1921]).

The claims that Lenz and his colleagues advance are especially credible because they simply extend tried and tested, even commonsensical, notions and experience with selective breeding in plants and animals into the human sphere. Thus, Fischer (in *Baur et al.*, 1931, p. 173, n.1 [1921]) observes—responding to those who might object to the application of the concept of domestication to humans since the essential characteristic of 'domesticated animals is that in respect of their breeding they are subjected to the will of man'—that 'domesticated man comes to resemble the domesticated animals, with the same result, that marked variability ensues. That is why I have spoken of man as, biologically considered, being subjected to the influences of domestication'.

In order to make 'proper' use of the findings of race science, at least three conditions

are required, one practical and two epistemological: first, in the practical realm, there must exist a profession that is equivalent to occupations based on human agronomy or husbandry. This condition was, of course, to be satisfied by the racial hygienists themselves, with programmes co-ordinated at the Humboldt University of Berlin and the Kaiser Wilhelm Institute.

Second, in the realm of knowledge, it must be assumed that natural selection prevails over Lamarckian processes—a contentious area of enquiry throughout the race science movement.²⁹ If traits could be acquired as the result of changes in the geographical environment or through socialization, and subsequently genetically passed on to future generations, then selective breeding would be an ineffective and otherwise doubtful technical application. Such a position, supported by Lester Frank Ward and others in the USA, was effectively excluded from German race science during the early 1920s (Massin, 1996). By 1933, even the most remote suggestion that racial characteristics could be significantly altered through environment or education was considered to be, *ipso facto*, unscientific.

Third, ‘pruning’ and ‘purifying’ a national population is a viable policy only if races have a concrete and identifiable existence. Means must be available to operationalize race according to clear, measurable criteria. Thus, fields such as anthropometry, haematology, and comparative anatomy must be developed to a fairly high degree. Significantly, all three conditions were present in Germany by 1935.

5. *Race science, text, and context*

Race science took a distinctive turn in Germany between 1927 and 1933, although it had been practiced since the late nineteenth century in several countries, including England and the USA. Although several scientific disciplines contributed to this field of study, a remarkable consensus existed among the various scholars on the principles explicated above, and on a range of related matters as well. For example, Eugen Fischer’s hereditary classification of races, which was accepted at the time as definitive—i.e. Neanderthals, Negroes, Mongoloids, and the ‘four great races of Europe’, Mediterraneans, Orientals, Near Easterners, and Nordics³⁰—is virtually identical to that of Knox, Edward East (1929, p. 186), and Frank Hankins (1926, who refined Gobineau’s scheme).

The theories of the race scientists were well known to, and generally respected among, members of the educated public, with entries in the *Encyclopedia Britannica* of the 1920s and early 1930s on race and related topics written by leading proponents of the field. This is to say that, in a profound sense, it was common knowledge and its proponents wanted it to be common-sense knowledge that race ‘matters’ in human affairs.

The main intellectual problem faced by the race scientists was to explain certain observed variations in what most referred to as ‘mental traits’. Eugen Fischer (in Baur *et al.*, 1931, p. 181 [1921]) argues, for instance that:

The racial composition of a people is, in all circumstances, decisive (in conjunction with other conditions) as to its cultural and mental functional efficiency. Of course we must not overlook the fact that the rise and fall of a nation in history is dependent on a number of external factors... Unquestionably, however, in addition to these, racial endowments play a mighty part. The various races of man differ from one another to an extraordinary degree in mental respects no less than in bodily. Some races are highly gifted as regards imagination, vigour, intelligence, etc., these qualities being variously combined, hereditary, and inalienable. Just as the environment modifies physical qualities paratypically, there can be no doubt that, as in the individual, so in the nation consisting of thousands upon thousands of individuals with their special racial endowments, the circumstances of

life must modify in many ways the development of the hereditary mental equipment. But the endowments are themselves provided by heredity once and for all; and inasmuch as the nations are racially different, their mental gifts must also be different.

In fact, the object of these investigations ranged widely, and usually included behavioural traits and socio-cultural characteristics as well—as indicated by Fischer’s matter-of-fact equation between cultural and mental ‘functional efficiency’. Whatever these traits are they would now be termed, in the mundane language of social research, the *dependent* variable(s) or, as the *work* that race presumably does.

If race membership is taken to be essentially fixed, natural and altered over time only through ‘hybridization’ (the common clinical term for race-mixing), then eugenics policy is the appropriate means of managing variation in the dependent variable. If climate can affect genetic traits, as some modern climate determinists maintain, then policies enforcing a geographic division of labour are the more viable policy alternative. Of the two approaches, only *Rassenwissenschaft* entails race war. Nevertheless, both climate determinists and race scientists support the notion of *Lebensraum* and endorse scientific expansionism.

6. *Climate and race*

Leading early-twentieth century proponents of climate studies, including the geographers Ellsworth Huntington (1924 [1915]) in the USA and the social psychologist Willy Hellpach (1938) in Germany, shared the race scientists’ interest in using evolutionary principles to explain inter-species (sub-specific’) variations in *Homo sapiens*. In particular, they sought to demonstrate that distinct regional groupings, often (but unsystematically) termed races, exist and can be identified by physical and ‘mental’ traits that presumably reflect adaptive responses to the particular environmental conditions that prevail in the region. Among these formative geographic conditions, climate is granted a pre-eminent role. Huntington’s (1924a, 1st edn, p. 270 [1915]) own opus is best summed up in the following conclusion: ‘No nation has risen to the highest grade of civilization except in regions where the climatic stimulus is great’. In 1911, Ellen Churchill Semple (1911, pp. 1–2) opened her widely cited study on the control of the natural environment over human affairs with the following general declaration:

Man is a product of the earth’s surface ... the earth has mothered him, fed him, set him tasks, directed his thoughts, confronted him with difficulties that have strengthened his body and sharpened his wits, given him his problems of navigation and irrigation, and at the same time whispered hints for their solution ... Man can no more be scientifically studied apart from the ground he tills, or the lands over which he travels, or the seas over which he trades, than polar bear or desert cactus can be understood apart from its habitat.

For Huntington (1924a, pp. 363–64 [1915]), as for the race scientists, these insights into the profound effect of environmental conditions on human affairs constitute much more than merely scientific observations. These are matters of practical urgency:

A race or nation can apparently be made by natural selection. Mere numbers count for nothing: in many cases a dense population is the greatest of curses, as it has been in Ireland, China, Japan and Germany. Quality is what counts and what quality is can be obtained only by diminishing the number of people who inherit low moral and mental capacities and increasing the portion who inherit the high qualities which lead to racial dominance. In the past, without man’s conscious intervention, natural selection has been actively at work, sometimes for good and sometimes for ill. The only question is whether a race or a nation will control such selection so that it will always act beneficially as in the first and greatest days of ancient Greece and Iceland, or will permit it to continue to work haphazard and perhaps toward great unhappiness, as in China or in Greece of later days.³¹

Arguments that establish the connection between climate and race are no longer based on pure conjecture as was the case for centuries in related reflections on the efficacy of climate on human affairs. Rather, these scholars employ a large body of quantitative environmental, sociological, and anthropological data to make their case scientifically convincing. However, in essence, modern climate determinism still asserts—as did Plato, Montesquieu or Hegel—that a particular climate (for instance, that which we find in contemporary Northwestern Europe) is conducive to the survival of some genetic features (light skin, fair hair, long legs, etc.) but also to specific cultural, economic and political accomplishments. Individuals with the more advantaged characteristics are more likely to survive and reproduce, and thus to determine the composition of the future gene pool. Ultimately, this process of selection creates a group in which unsuitable traits have been eliminated. Group/regional differences are thus the outcome of long-term interaction between climatic conditions and genetic processes.³²

Formulated in this way, formidable obstacles exist to any effective way of factoring out relevant dimensions and attributes. The claims are filled with operational complexities (e.g. how does one define ‘inhabitant’?). In addition, no mechanism is specified whereby variations in climate can ‘produce’ the supposed cognitive and behavioural variations, with the result that a curious and ambivalent mixture of both Darwinian and Lamarckian evolutionary principles are invoked (Stehr, 1996).

Similar issues emerged in the field of race science, especially as it came to fruition at the Humboldt University in Berlin under the leadership of Eugen Fischer. Whereas climate-based explanations require race or a similar concept to account for inter-generational continuity of mental and behavioural traits, race-based explanations need to identify the causes of sub-species formation. In the latter case, ‘environmental conditions’ play this role through their impact on reproductive capacity. This line of argument is especially evident in the several instances in which Fischer (in Baur *et al.*, 1931, pp. 173–74 [1921]) and other race scientists explicitly discuss climate. For instance:

Let me remind the reader of the variations in the tint of the skin and the color of the eyes, in the stature, and in the shape of the nose. As an example, I may refer here to the origination of the so-called white skin and of fairness. It is a matter of common observation that comparatively fair individuals appear from time to time in all races. Under natural conditions, however, a fair skin is dangerous to dwellers in the tropics, so that in those regions persons exhibiting such a variation are eliminated by natural selection. The tropical sun is so harmful to the human body when unprotected by clothing or by an ample supply of pigment that a fair and blond race can only arise in temperate regions. The fact that the blond inhabitants of northern Europe exhibit a general distribution of pigment, above all in the iris, exactly like that of the fair domesticated animals but quite unlike that of animals belonging to the polar zone, is plain proof that we have to do here with a form resulting from domestication which is able to maintain itself in temperate climes, whereas similar idiovariations have always been eliminated in the tropics by natural selection and are still so eliminated there whenever they arise ... Nature, therefore, perpetually sees to it that the race shall remain at the acme of efficiency.

In a similar vein, Lenz (in Baur *et al.*, 1931, p. 657 [1921]) observes that ‘the Nordic environment was not one which allowed human beings to dwell in great communities. In view of the scarcity of food, only small kinships could outlive the northern winter. The result was that in the Nordic race there was fostered by selection an inclination towards isolation’. Indeed, climate, race, and belief-behaviour were routinely conflated by a diverse range of authors between the late nineteenth century and the World War II era, including Ellsworth Huntington who was the subject of devastating critique by P. A. Sorokin on this matter (Sorokin, 1928). The parallels among these writings is not coincidental, as evidenced by abundant cross-referencing and co-citation. Rather, climate determinism and race science were complementary approaches to ‘explaining’

why hierarchy and inequality are inevitable and why certain peoples do or should dominate others.

7. *Race, measured intelligence, and crime rates*

In comparison to the climate determinists, the race scientists were less directly concerned with the effects of climate on genetics or on civilizational transformations. Rather, they were more interested in the impact of genetics on individual 'mental traits'. Thus, they self-consciously remained more faithful to pure-Darwinian principles. Central to this programme was their use of IQ test results to operationalize the impact of race on mental ability (see Baur *et al.*, 1931, Part III [1921]).³³ Measuring intelligence and linking it to 'race' is of course an issue that continues to fascinate and divide.

The position taken by the race scientists of the 1930s is that the anatomy and physiology of the nervous system, and the brain in particular, are shaped by heredity. For example, Lenz believed that 'there could be no doubt whatever that mental racial differences exist. In each race we find that there are average values in the structure of every organ, the brain included; and therefore for each race there must be an average kind of mental equipment' (Baur *et al.*, 1931, p. 633 [1921]). Later he reasserts this view in the form of a convincing metaphor: 'No one can get out of his own skin or rid himself of his own mind, and minds are racially differentiated quite as much as are the tints of the skin' (Baur *et al.*, 1931, p. 690 [1921]).

If one were to assume, as the race scientists did, that performance on IQ tests is a direct measure of brain capacity and functioning, then differences in scores between individuals reflect authentic, hereditary differences in 'mental equipment'. The final step in the argument was to demonstrate that systematic group-based differences do in fact exist in the IQ performance of the various races, which East, Fischer, and the others believed they had done (see Lenz in Baur *et al.*, 1931, pp. 629–34 [1921]). The conclusion, drawn without recourse to Lamarckian mechanisms, is thus straightforward: the races have inherently different mental capacities that can be ranked from high to low, just as species have different, more-or-less advanced traits. Fritz Lenz explicitly emphasizes this advantage of *Rassenwissenschaft* over the climate studies approach: 'Thus, race is to a degree the product of environment, but it is not the direct product of environment in the Lamarckian sense of the term, inasmuch as selective process is involved' (Baur *et al.*, 1931, p. 656 [1921]).

Further substantiation of this important link is offered for race scientists by way of comparative crime statistics, with the understanding that a race's level of mental development / IQ is directly correlated with the number of offences for which members are officially charged: 'The frequency with which the members of the various races are guilty of *criminal acts* throws some light on the mental differences between these races', asserts Lenz (Baur *et al.*, 1931, p. 678 [1921]), and, 'in the United States, there is much more criminality among the Negroes than among the immigrants from Europe and their descendants. This is obviously due to the fact that the Negroes have less foresight, and that they have less power of resisting the impulses aroused by immediate sensuous impressions'.

Whereas present-day social researchers are inclined to be highly sceptical and circumspect about taking such bold leaps among levels of discourse, from (a) genetics to (b) brain anatomy and physiology to (c) psychology (lack of self-control) and thence to

(d) criminality, the race and climate scientists were untroubled with such a 'transdisciplinary' discourse. In this and related matters, they found support in a rich literature on 'criminal body types', including the classic works of Lombroso. When they did take exception to the then-prevailing theories of deviant behaviour it was, characteristically, to demonstrate that the physical traits associated with criminality are not randomly distributed among all nations but are actually race-specific. Moreover, the supposed associations among mental capacity, behaviour, and race by no means end with the explanation of crime. Rather, a broad range of other racial-mental effects are cited throughout the race science and climate studies literature, to which we return presently. For the moment, however, let us shift our attention to race as-such, the *independent* variable in the formulations of *Rassenwissenschaft*.

8. *The reality of race*

We now understand that the entity referred to as race by race and climate scientists is in fact a *post hoc* construction. Perhaps the more contemporary and more appropriate way to describe it is as a relatively isolated set of geographically proximate populations. This has several important consequences. For one thing, because the location of populations and the judgements as to what constitutes relatively isolated and proximate are all known to vary over time, so-called race is a construct that is variable and contestable. It is not an immutable category beyond the control of all. A population (that is, a naturally occurring human population) is an aggregate of individuals with three essential properties: (1) it is relatively endogamous; (2) it shares a bounded territory; and (3) it shares a social structure that includes (a) rules of endogamy/exogamy, and (b) a definition of the population's territory. Members of a specific population resemble one another, within and between generations (and they differ systematically from members of other populations), by virtue of inheritance. However, two distinct and separable types of heritage operate in population dynamics, the one genetic and the other cultural.

The observations of the race scientists, to the effect that individuals who are anthropometrically similar also think and behave alike, are thus accurate; but they are entirely explicable in terms of this dual inheritance. That is, members of a population inherit physical traits through genetics and mental-behavioural traits through enculturation. Included among these culturally inherited propensities are the 'power of resisting the impulses aroused by immediate sensuous impressions', as Lysgaard and Schneider (1953) have since established, and the probability of being apprehended and booked for criminal activity *ceteris paribus*, as contemporary criminologists know well.

For the race scientists, there were no essential differences between the evolution of species and that of races. 'We may say, indeed', observes Eugen Fischer, 'that the formation of species is at the same time the formation of races' (in Baur *et al.*, 1931, p. 171 [1921]). However, a population is in fact quite unlike a true species, because it is only relatively endogamous and its gene pool is thus open. In addition, in human populations, breaches of the rules of endogamy and the consequent alteration of genetic material can occur not only through incidental contact but also by design. No doubt, such transgressions always carry some type of stigma; proscribed exogamy is, after all, deviant behaviour. However, not only is marriage between members of distinct populations possible, it has been routinely practiced as long as *Homo sapiens* has existed. Moreover, it is the basis of the formation of 'races'.

A thought experiment allows us to stipulate the existence of a population that is perfectly isolated from all others; there would be no opportunity either for exogamy, and thus for hybridization, nor for acculturation, whereby members would come to share mental and behavioural traits of others. A population free from external contacts would have all the characteristic features associated with a 'race': members would look alike and act alike in ways that clearly distinguish them from members of other populations; and it would be difficult not to conclude that the former is the cause of the latter. If, at some imaginary point in history, the human species consisted only of a number (say 100) of such pure populations—all of whom were absolutely cut-off from one another for whatever reason—then there would be 100 'races.'

In reality, such isolation is only possible in a thought experiment; for every human population has experienced sufficient contact with another, geographically proximate, population to produce a discernible level of both hybridization and acculturation. Moreover, the degree to which this has occurred generally varies directly with the distance or degree of accessibility between the populations' respective territories. The result is that at a given moment, within each relatively isolated region of the world, one can find several populations that have observable physical and cultural affinities, whereas substantial differences exist between such regions. These regionally-bound population groupings are identical with what the early twentieth-century anthropologists, geneticists, and climate scientists labelled *races*.

Significantly, the number of such 'races' varies with time, depending on how many regions happen to lack access to each other. For example, by this standard one could argue that, in an increasingly mobile world, there are bound to be fewer even moderately 'pure' races today than in the past. That is: (a) members of populations within regions are interacting and interbreeding with greater frequency and, at the same time, (b) inhabitants of the various regions are establishing routine contact with one another.

On the other hand, at the dawn of the Age of European Exploration in the early sixteenth century, vast oceans and mountain ranges still divided the world into regions so isolated from one another (although obviously not absolutely so) that each could sustain distinctive, identifiable inter-population gene pools and cultures. It is in this context that the conception of a humanity consisting of five distinct major racial groups gained ascendancy: Caucasians in Europe (subdivided into the four 'great European races', see above), Negroes in Africa, Australoids in the Pacific, Mongoloids in Asia, and (their cousins) the Amerinds of the New World. This categorization was codified as, during the latter part of the nineteenth century, exploration and discovery gave way to the need for explanation (and justification). Such an explanation was provided by the early anthropologists, sociologists, and geographers, and ultimately was reified and elevated as the most efficacious variable in the race scientist's repertoire.

However, the archaeological record makes it clear that within at least the first four of the five world regions, the predominant population grouping ('race') had been formed from earlier contacts between previously isolated populations (that is, isolated prior to the technological innovations that made access possible). Thus, at some point not long before 1500, the number of then-isolated regions, and thus the number of 'races', most likely exceeded five; and prior to the Bronze-Iron Age transition some 5,000–10,000 years ago, there may well have been scores or even hundreds of so-called sub-species of *Homo sapiens*. Over the long course, 'racial' barriers are routinely broken down (and, in theory at least, can be consciously or inadvertently constructed) because they do not really exist. Rather, they reflect a combination of demographic, historical, legal and

technological conditions that are highly dynamic and, in principle, are partly under human control.

Much of this account is common-sense knowledge. Yet, the appeal of the concept of race is apparently very subtle, one that easily yields to the simpler idea that biology and genetics determine both belief and behaviour. Perhaps it is because the realities of population, culture, and dual inheritance are so complex that those championing their use as key explanatory variables lost out to racism in the internal struggles in Weimarer anthropology—and elsewhere. However, the true cause of race science's ascendancy is more likely to be found in its compatibility with Draconian public policy priorities. It is difficult to justify campaigns to secure *Lebensraum* and to achieve a *judenfreie* world if we must deal with 'geographically proximate, historically variable population groupings'. However, if one proclaims to be secure in the knowledge that individuals are the way they are because of deep, natural and unalterable genetic forces, then race hygiene has a very important role to play in statecraft.

9. *Race works*

In this section, the authors return for a closer look at the alleged work race does. We have noted that race scientists construed race-based 'mental capacities' or 'mental traits' to be the outcome of observed variations in inherited physical characteristics, including genetic determination of the anatomy of the brain and 'internal secretions' (i.e. hormones). Viewed in this manner, there is much that contemporary social and biological scientists would find sound in this association. Undoubtedly, our nervous and endocrine systems are as subject to the principles of genetic inheritance as are the colours of our eyes and hair. To the extent that the demographic preservation and alteration of gene pools occurs as discussed above, one could properly conclude that the different 'races' (that is, geographically proximate population groupings at a given moment in history) do have distinct somatic endowments in this respect.

However, what sort of 'mental capacities' are presumed to result from such endowments? We have already seen that (a) intelligence, as measured by IQ score, and (b) morality, as measured by official crime statistics, were especially strongly emphasized by leading race scientists in Germany and the USA. The apparent reason for this preference is that these quantitative indicators were readily available at the time and were considered to be eminently reliable and valid by contemporary standards. Today we know better and understand that these are essentially contested indicators.

Although the debate over the link between IQ scores and 'race' continues to rage (and will likely be sustained by the remnants of the modern eugenics movement and others), by their very nature these scores must, to some as yet unknown degree, reflect learned characteristics of a very narrow type (that is, narrow in comparison to what we mean less formally by 'intelligence'). No method has yet been devised to discern the mental capacities of a new-born infant, and even if one existed, it could not discern between neurological and hormonal traits that are directly genetically determined and those resulting from pre-partum conditions—such as diet of the mother, the kinds of drugs or medication she ingests during or just prior to pregnancy, and the like.

If there are, indeed, systematic 'racial' differences in IQ scores, they cannot be wholly (or even substantially) explained by genetics. People learn to exercise the skills for which IQ tests reward points just as surely as they learn to read and write. As for crime rates, not only are they known to be socially constructed, but also there are even

greater obstacles to their use in racial explanations. For here the case is even clearer that people's enculturation experiences and social backgrounds are decisive, not only in determining their propensity to commit crimes but also the probability that they will be processed as criminals, whether or not they are actually guilty.

It is entirely possible that all 'races' are equally inclined to immoral behaviour, whether or not official crime rates adequately measure these propensities. However, it is most difficult to move beyond selective public perceptions and the prejudices of some scientists. Race scientists such as Lenz contrasted the presumed inherent deviancy of 'Negroes' to the evident law-abiding character of 'Nordics'. However, was it not the Negroes who were the victims of kidnapping, slavery, and starvation during the colonial era, and was it not Nordics who planned and carried out the Holocaust? What is immoral, what is criminal, after all?

Notwithstanding the difficulties that attend the use of intelligence and criminality measures as indicators of the work race is presumed to do, race scientists did not hesitate to venture into even more uncertain territory in identifying mental capacities with several other traits. It is significant that, in contrast to their treatment of intelligence and morality, their assertions concerning racial variations among these other factors uniformly lack quantitative support. Instead, their empirical 'proofs' consistently rely on common-sense knowledge, accounts of travellers, and quotations from classic and contemporary poets, philosophers, and the like. Indeed, one finds a remarkable discontinuity among the race scientists in their concern for accuracy and quantifiability of the independent variable, and IQ, and crime, on the one hand, and their decidedly ambiguous and non-qualitative approach to the (crucial) 'mental traits', on the other.

Among these unmeasured characteristics, one of the most commonly cited (among race scientists, climate determinists, and others) is the capacity to conceptualize beyond immediate sense experiences. This cognitive trait is understood to be formative, and to be closely associated with several other characteristics, including the ability or propensity to defer impulse gratification, level of energy, industriousness, and (of course) a high IQ. Systematic variations in this trait are assumed to be inherent, immutable, and hierarchically ordered in relation to survival adaptability.

Thus, proponents of *Rassenwissenschaft* correlated the ability to imagine, to think abstractly, and to defer impulse gratification with the hierarchical classification of the living races of *Homo sapiens*. The Australoid peoples, whom Lenz refers to as 'Australian Blackfellows' and who are deemed to have 'mental characteristics closely akin to Neanderthal man' (Lenz in Baur *et al.*, 1931, p. 627 [1921]), are the least developed in these respects. 'Attempts to teach them agriculture and to make them settle down have been a complete failure. The chief cause of the inability of these primitive races to attain a higher degree of civilisation would seem to be their lack of imagination'. Moreover, he warns, 'Those who hold a more favorable view of the possibilities of such primitive races should be reminded that these latter have had just as long a time as we [Nordics] ourselves have had in which to develop a higher civilisation'.

At the other end of the extreme from the Australian Blackfellows are nature's favoured Nordics who in respect of mental gifts, as we have seen, 'march in the lead of mankind' (Lenz in Baur *et al.*, 1931, p. 655 [1921]). These gifts, according to Fischer (1913, p. 150), include 'great energy and industry', 'vigorous imagination' and 'high intelligence. Conjoined with these', he continues, 'are foresight, organising ability, and artistic capacity'.

Lenz and his colleagues identified numerous other 'mental traits' that were presumed to be racially/genetically determined (some of which are identified in the appendix).

Significantly, although these include all sorts of ‘capacities’ and ‘propensities’, the race scientists attempted to connect each one with what they understood to be the fundamental cognitive abilities; that is, imagination, etc. Indeed, the fact that the race scientists attributed a kind of master role to imagination and deferred gratification has additional implications for analysing their concept of racial hierarchy, in general, and the place they assigned to the Jews, in particular:³⁴

1. First, it helps us see why these images had such popular appeal, to appreciate the ease with which they could be comprehended because they resonated with common experiences: their ‘elective affinity’ with Nazi race policy. The races are depicted as representing different levels of development, in both the evolutionary and the life-cycle senses of the term. Just as new-borns cannot cope with complex environmental conditions, the less-advanced races are incapable of mastering the challenges of modern civilization. Racial ‘toddlers’ cannot control themselves. Like infants they are ultimately dependent and at best a source of amusement (because they like to play and sing). In contrast, the most mature of the races has the capacity—if not the obligation—to control the destiny of all others. Moreover, armed with the advanced knowledge of race hygiene, the Nordic people have the means to effect rationally the healthy maturation of humanity.

The discourse of race hygiene thus allows one to set the process of natural selection in motion in order to maximize the aggregate propensity to defer gratification, to imagine, and thus to succeed under civilized conditions. ‘Self control is, perhaps, the most distinctive among the characteristics of the Nordic race, and upon this depends in large measure the Nordic gift for civilisation. Races lacking in self control are unable to be guided by long views and to pursue remoter ends’ (Lenz in Baur *et al.*, 1931, p. 656 [1921]).

2. Second, whereas some races are as easily controlled as human infants, those at intermediate levels of advance (‘teenagers’) display a difficult combination of advanced and infantile traits. Although lacking the complete capacity for deferred gratification and rational behaviour exhibited by Nordics, these peoples are ‘clever’ enough to resist the kind of disciplined subjugation to which Negroes, Blackfellows, and Mongoloids appear to have adapted effectively. Included in this category are the Orientals and the Near Eastern race—at whose juncture lie the Jews (and Slavs, etc.). They require ‘special treatment’ because they are neither children nor adults in the phylogenic scheme of things. The Jews are, thus, understood to be a prime example of a degenerate race, but not because they are consistently ‘lower’. Rather, their degeneracy stems from the fact that they reflect an especially dangerous moment in the evolutionary process at which intelligence and immaturity freely co-mingle.

10. *Classifying the Jews*

The final section on the nature of race science considers the manner in which practitioners approached the ‘Jewish problem’. From the preceding commentary it may already be evident that the project of explaining the hereditary mental capacities of this group was at once extremely important and rife with problems exceptionally difficult for the race scientist to resolve. Whereas official Nazi doctrine was clear and

unequivocal (that is, Jews are a degenerate form whose mental and behavioural traits are inimical to social and political progress), the academic race scientists were less inclined to draw such definitive conclusions.

Rather, the extensive commentary that Lenz, Fischer, East, Stoddard, and the others offered represents a curious mixture of respect, admiration, and mistrust for distinctively ‘Jewish ways’, an attitude clearly drawn from the extensive literature on the Jewish mentality that had accumulated in the preceding decades (Gilman, 1996).³⁵ The race scientists and their colleagues argued that the Jewish race represents a uniquely heterogeneous mixture of genetic material, and therefore of associated mental characteristics. This was understood to be the outcome of their fabled wanderings, and thus due to: (a) a combination of several discrepant, formative climatic factors; and (b) frequent hybridization.

Notwithstanding these rampant impurities, the definitive analyses of Fischer and Lenz classed Jews as a branch of the Near Eastern race, ‘into whose racial composition the Oriental [itself a branch of the Mediterraneans] stock enters very largely’. Thus, ‘a Jew can usually be recognized at once by his bodily appearance. In North Germany it is hardly possible to mistake a Jew. But the mental racial peculiarities of the Jews are more marked even than the bodily, so that we might speak of the Jews as a “mental race”. The fundamentals of the Jewish mind are those already described as characteristic of the Near Eastern race ... but even more strongly developed’ (Lenz in Baur *et al.*, 1931, p. 667 [1921]).

Eugen Fischer, in particular, made a special effort to unpack the complexities of Jewish genetics by way of a long historical account in his chapter on the ‘Description of the Races of Man (Anthropography)’. This discussion is distinguished by the author’s explicit concern with the interaction between Oriental and Near Eastern components, his reference to the distinction between Sephardic and Ashkenazi Jews, and his insistence that, all of these complicating factors aside, Jews and Teutons are fundamentally different types of human beings. Thus, a considerable section of this account may be worth repeating:

If from among the Semitic people, the Hebrews are to be singled out as especially interesting, I may say that these also are the products of the same general racial intermixture, the Near Eastern and the Oriental races being the fundamental stocks. If to-day among the Jews we distinguish two main branches, the Sephardim and the Ashkenazim, ethnological study shows that among the former the Oriental racial admixture predominates, and among the latter the Near Eastern. The differences among the Jews in Europe are to be accounted for by their mingling with the peoples among whom they respectively dwell. The southern Jews, the Sephardim, have been largely crossed with Mediterranean blood, whereas the eastern Jews, the Ashkenazim, have been crossed with Alpine and Mongoloid blood. We may suppose that at the very beginning of the diaspora, the Jews who had been more strongly influenced by a Near eastern admixture in northern Palestine must have tended to migrate northward, whereas the Jews of southern Palestine, in whom there was a large infusion of Oriental elements, must have inclined to sail westward across the sea into the countries of southern Europe—so that the two main branches began to become sundered in those very early days. The Sephardim and the Ashkenazim represent different racial mixtures. After what has been said it is almost superfluous to insist once more that we are just as little entitled to speak of a ‘Jewish race’ as of a ‘Teutonic race’, inasmuch as the Jews, no less than the Teutons, are the outcome of particular racial minglings. Nevertheless, we can describe the main racial characters of the Jews and of the Teutons, respectively, distinguishing them clearly from one another [evidently a very important project] (Fischer in Baur *et al.*, 1931, p. 202 [1921]).

This notion of ‘minglings’ also dominates the race scientists’ characterization of how race works in the case of Jewish mental traits. Many of the geneticists, geographers, and anthropologists of the era busily contributed to this account; in Germany, Fritz Lenz took the lead in this regard—as he did in general on questions of racial psychology.

As measured by the quantifiable indicators, IQ and criminality, Jews were actually understood to exhibit markedly *superior* traits. ‘Some of the Near Eastern and Oriental elements among the Jews are fully equal to the Nordics in many domains of intellectual life, and are superior to them in some’ (Lenz in Baur *et al.*, 1931, p. 655 [1921]). Lenz also notes that ‘the Jews greatly excel in intelligence and alertness’, that ‘Jews are precocious’, and that ‘the Jews have produced noted scientists in the domains of physics, mathematics, medicine, and psychology... their strength lies in their highly developed sense for numbers, and in their gift for formal logic. It is to these same hereditary factors, doubtless, that the Jews owe their remarkable skill at chess. Most of the great masters of the game have been Jews’ (Lenz in Baur *et al.*, 1931, pp. 670–71 [1921]).

The American geneticist Edward East (1929, p. 212) relates Jewish genius to heredity with strong praise for what he claims is their ‘selective breeding’: ‘Among the leading hundred scientists [in J. M. Cattell’s 1915 study], 7 were Jewish, 6 of them having been invited [to the United States] to fill scientific positions. This fact speaks well for the race as a whole’. Nevertheless, he does leave open the possibility that degeneracy and intelligence are not mutually exclusive: ‘The degenerate product of a bad genetic combination is not saved by the record made by others of his race. Greatness is an individual matter. There are no uniformly great races. Historically the Jews are great. They have wandered over the earth and have mingled their blood with the blood of other peoples. Contrary to general belief, they form one of the most variable groups on earth, as Fishberg has shown. Starting as a mixed race, they have become more mixed. In every country they have produced exceptional individuals, and these exceptional individuals have usually married well, whether within or without their faith. Stringently selective breeding, therefore, has brought forth individuals celebrated in nearly every line of endeavor’ (East, 1929, pp. 178–79).

Associated with the Jews’ high level of intelligence is an admirable degree of sobriety and a remarkably peaceable nature. ‘The sobriety of Jews, their power to resist the seductive charms of alcohol, might set an example to the Germans. Obviously, their sobriety is based on their hereditary mental endowment’, and ‘the greater frequency of assaults among Christians than among Jews is, presumably, due not to religion but to race’ (Lenz in Baur *et al.*, 1931, pp. 674, 680 [1921]).

Despite these favourable traits, it was nevertheless evident to the race scientists that there is a darker side to Jewish intelligence and morality and that the ‘positive’ attributes did not exculpate the race: for example, ‘Jews show comparatively little interest in concrete natural objects, their chief concern being with all the factors of mental activity’ (Lenz in Baur *et al.*, 1931, p. 671 [1921]). ‘The visualizing and technical abilities of the Jews is comparatively small’ (p. 672). Indeed, this lack of concreteness and preference for the abstract—‘the abstract gift of Jews’ (p. 654)—are claimed to underlie several other hereditary Jewish traits, including their choice of occupations.

Similarly, the Jews’ propensity for fraud and for the obscene ought to condition our interpretation of their apparently low crime rates, and our understanding of several related aspects of their business and cultural practices. Lenz (1931, p. 681 [1921], quoting E. Wulffen) observes that:

If we are to reach an objective judgment concerning the criminality of Jews, we must compare Jews, not with the non-Jewish population in general, but with those sections of the non-Jewish population which occupy a similar social position to the Jews. My own impression is that when this is done it will be found that deeds of violence are no more frequent in the non-Jewish than in the Jewish population,

but that fraud and the use of insulting language really are commoner among Jews... . It is said that Jews are especially responsible for the circulation of obscene books and pictures, and for carrying on the White Slave trade.

A related mental trait also figures prominently in the race scientists' account of the Jew. This is variously referred to as 'empathy' and 'sociability'. It seems to stem from Jewish propensity for the abstract, and is presumed to explain a great deal about why they behave as they do. 'The Jew is more often importunate than the Teuton, and is more sensitive; but even when he has been mortified by a repulse, he will usually return to the charge; for by nature he is eminently sociable' (Lenz in Baur *et al.*, 1931, p. 668 [1921]).

Significantly, this quality is associated with the Jews' presumed talent at manipulating others. 'Jews are characterised, not only by shrewdness and alertness, by diligence and perseverance, but also by an amazing capacity to put themselves in others' places (empathy) and for inducing others to accept their guidance' (p. 668). Here we also gain an insight into why Jews apparently dominate certain occupations and avoid others. 'In part [their] devotion to medicine may doubtless arise from the circumstance that the Jew dreads pain, illness, and death more than does the Teuton; but a powerful factor may also be that the success of the physician so largely depends upon his capacity for exerting a mental influence over his fellow human beings' (p. 672).

Such occupational selectivity appears to extend well beyond medicine, and even to the much-feared job of making social revolutions. 'A strikingly large proportion of celebrated musicians have been Jews (Lenz in Baur *et al.*, 1931, p. 646 [1921]) ... The Jewish talent for living among purely imaginary ideas as if they were concrete facts is advantageous, not only to the actor but also to the barrister, the trader and the demagogue ... In revolutionary movements, hysterically predisposed Jews play a great part, being able to give themselves up unreservedly to Utopian ideas, and therefore able with a sense of inward sincerity to make convincing promises to the masses' (p. 673).

Armed with such an understanding, the student of race science is thus able, in a single formulation, to explain (a) why Jews are successful, (b) why they are not to be trusted, and (c) why so many of them are doctors, musicians, *and* revolutionaries. The formulation also provides the foundation for one of the most important of the race scientists' concerns, explaining the evident economic success of Germany's Jews, the 'well known business ability of Jews' (Lenz in Baur *et al.*, 1931, p. 644 [1921]). For detailed commentary on this trait, Lenz refers his reader to the political economist and sociologist Werner Sombart who 'has given a brilliant description of the Jewish talent for economic life' (p. 669).

Most important, perhaps, one must note whence this talent came, for 'the quality is not peculiar to the Jews, being shared by other Orientals and especially with the Greeks and Armenians' (p. 644). This is the capacity to be middlemen, intermediaries, and to excel at occupations that emphasize this talent. Given these roots, 'they naturally turned to commerce and similar occupations. The result was that, in the main, only those Jews could found a family who had special aptitude for acting as intermediaries in dealing with the goods produced by others, and in stimulating and guiding others' wishes' (p. 667).

Through the mechanism of natural selection, these circumstances ultimately produced the familiar association between certain lines of work and Jewishness: 'the professions they especially choose, and practice with advantage to themselves, are those of merchant, small trader, money-lender, journalist, author, publisher, politician, actor, musician, lawyer, and medical practitioner' (Lenz in Baur *et al.*, 1931, p. 668 [1921]). Moreover, 'The theatres are for the most part in the hands of Jews; in the United States

exclusively so, according to Henry Ford [citing *The International Jew*³⁶]. The same is true of the movies. A large proportion of daily newspapers and other periodicals are issued by Jews, edited by Jews, and provided with articles by Jewish journalists' (p. 668).³⁷

In addition to accounting for their 'well known' business acumen, the Jews' empathic/manipulative nature presumably contributes to their most sinister and mysterious racial trait: their ability to blend into any social milieu. This assertion, to the effect that Jews have a special capacity to assimilate wherever they find themselves, was presumed to be common-sense knowledge by the race scientists. Indeed, this characteristic, in particular, had been anticipated in earlier, prescientific studies of race, such as that of the French historian, Anatole Leroy-Beaulieu (1895; cited in Gilman, 1996, p. 50). According to Leroy-Beaulieu, the Jew has a special 'faculty for assimilating', he therefore 'responds more rapidly than ourselves to the influences of his environment and times'. Lenz updates this observation with an illuminating discussion of this talent, in which he compares the Jew, in relation to the Gentile, with the Viceroy butterfly, in relation to the Monarch (whom the Viceroy imitates to an uncanny degree):

If the peculiarities of Jews are less conspicuous in the bodily than in the mental domain, this may arise from the circumstance that Jews whose bodily aspect was markedly exotic were less successful than those whose bodily type resembled their hosts. The instinctive desire not to look singular would also operate by sexual selection, by a preferential choice of a partner in marriage who did not look too much unlike the hosts. The adoption of Gentile names by many Jews is likewise a manifestation of the wish not to be recognisable as Jews. Insofar as the type has become less conspicuous thanks to the working of such a process of selection, we have to do with the mimicry which is familiarly observed wherever a living creature gains advantage in the struggle for existence by acquiring a resemblance to some other organism. Thus we find different species of animals which are very closely alike, and which may be akin, but which are sharply distinguished each from the others in manner of instinct. Among butterflies I know many such species. The great resemblance here is obviously due to the fact that the mimicry has been advantageous to one of these species in their struggle for existence. (Lenz in Baur *et al.*, 1931, pp. 667–68 [1921])

While an advantageous trait for the Jew, this ability to mimic can be potentially disastrous to the host population. The danger is especially great when combined with a talent for empathy and manipulation, a tendency toward hysteria, and an inclination to foster revolutionary demagoguery. If we add to this the fact that the race in which such gifts are most developed also dominates in business, science, the press, entertainment, and other key positions of social influence, the potential threat to other races is evident. Lenz's readers are left to draw their own conclusions concerning the race-hygiene implications of this syndrome, but within the decade that followed the publication of his 'findings' the circle was closed in the form of *judenrein* policy. Significantly, a great deal of effort was expended by those who formulated the policy to establish reliable (genealogical, anthropometric, etc.) criteria for 'unmasking' Gentile-appearing Jews.

Although well developed for scientific and business activities, music, and the like, the Jewish mind appears to suffer from a type of closure, most probably the result of its preference for the abstract. In discounting the feasibility of a Zionist solution to the Jewish problem, Lenz (in Baur *et al.*, 1931, p. 669 [1921]) invokes this incapacity: 'Owing to their deficient talent or inclination for the primary work of production, it would seem that a State system consisting exclusively of Jews would be impossible'. In any case, there are clear limits to expanding Jewish intellectual horizons. 'Jewish authors seem to have a preference for quoting one another rather than Gentiles, and this may be mainly attributed to their finding the thoughts of their co-nationals more congenial' (p. 667).

In connection with this account of the recalcitrance of the Jewish mind, Lenz makes a remarkable observation, mentioning it not once but several times in the course of debate with his critics. Obviously concerned with establishing that racial characteristics are indeed genetically determined and immutable, he derides explanations that suggest traits such as empathy, business acumen, and preference for certain trades may be acquired during the life of an individual. Employing the logic that typifies the *Rassenwissenschaft* approach, he classes all such explanations as ‘Lamarckism’, and dismisses them as unscientific. However, he goes even further, suggesting that a preference for the doctrine is itself a race-based mental trait, especially prevalent among Jews!

This commentary forms part of a long and extremely interesting polemic by Lenz (in Baur *et al.*, 1931, p. 674 [1921]) that concludes with a telling remark. ‘I drew attention to the fact that most of the Lamarckians are Jews, not in order to give the mercy stroke to Lamarckism, but in order to illustrate the psychology of Jews’.

Thus, the race scientists raised a final, fatal doubt concerning the Jewish mind. Not only is this otherwise intelligent race prone to guile, deception, manipulation, and lofty ambition, it is constitutionally incapable of accepting the well-founded conclusions of race science. ‘This inevitably arouses the impression that they must have some reason for fighting shy of exposition of any racial questions’ (p. 674).

Judaism is a faith that, like Christianity, had special historical appeal to various peoples who ultimately settled in Europe. One can convert into the faith, and one may convert out of it. Like Christianity, it has spread to and been accepted by minority groups on all the continents. The dark-bearded, caftan-wearing man who, as reported in *Mein Kampf*, so shocked Hitler during his days of awakening in Vienna, and who later became the stereotyped symbol of the Eternal Jew of anti-Semitic lore, was almost surely an Ashkanazi: a Jew of Central and Eastern European ancestry. However one wonders about what Hitler’s reaction would have been if he had just happened to run into a Mongoloid Chinese Jew, an Oriental Bene Israeli from Bombay, or a Negroid Jew from Ethiopia. These ‘minglings’ were as unknown to him as they were to any ordinary Austrian citizen; and if the race and climate scientists were aware of such Jews, they were never mentioned in their accounts—perhaps because they represented inexplicable anomalies.³⁸

In their catalogue of the physical and mental traits of the Jewish race, the race scientists were in fact arguing from ignorance. The object of their studies (until it was for all practical purposes decimated) was actually a set of ethnic sub-populations within Germany and several other European populations who were substantially more like their fellow Europeans than their fellow non-European Jews. Yet the category and its attributes were good enough, familiar enough, to evoke a favourable response among the publics that mattered. Whether or not it was accurate down to the last detail, it proved capable of isolating ‘undesirable’ elements in society and providing the means to eliminate them. As was the case in its treatment of the other races, race scientists employed Jewish ethnic stereotypes as the dependent variables in their explanatory scheme, and as a justification for the practice of eugenics, euthanasia, and at last murder. Whatever its scientific merits, it was nevertheless a science that ‘worked’—or at least very nearly so.

The association that has been explored suggests that the Holocaust might not have occurred, or at least that things would have turned out quite differently, if this new form of anti-Semitism had lacked the support and scientific legitimation afforded by Lenz and his colleagues. That is, Hitler’s road may still have led to Auschwitz if race science

had never existed; but it would have been far more difficult, ‘technologically’ and politically, to have undertaken the slaughter of Jews and members of other ‘degenerate races’ that began in the 1930s without the academic respectability that *Rassenwissenschaft* provided to Hitler’s final solution.

11. *Knowledge and power*

John Maynard Keynes’ s (1936, pp. 383–84) extraordinarily influential *General Theory of Employment, Interest and Money* closes with the following, now almost classic, observations:

The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual field of economic and political philosophy there are not many who are influenced by new theories after they are twenty-five or thirty years of age, so that the ideas which civil servants and politicians and even agitators apply to current events are not likely to be the newest. But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil.

Hidden in these sentences is Keynes’ s prophetic anticipation of the fate of his own *General Theory*. At the same time, and this is of direct relevance to the topic at hand, Keynes is observing that the potential *practical influence* of scientific knowledge is propelled by the *ideas* produced by science. The ambiguous term ‘ideas’ was probably chosen quite deliberately and signifies, among other things, that the most important practical consequences of a body of knowledge (or, for that matter, a doctrine’s *lack* of practical relevance) are after all cultural. Keynes is indicating how knowledge may shape human affairs latently (and belatedly) without necessarily affecting discussion and decision-making about the *means*, that is, instruments, of social action—if, indeed means and ends can be so easily separated.

This discussion of race science has focused on the conditions under which scientific *knowledge* comes to be translated into action. In the context of a general theory of social action, knowledge can best be defined as a faculty or *capacity for action*. Alternatively, it can be understood as the ability to describe, in the case of a particular thing or process, how that thing is generated or set in motion.³⁹ Therefore, from a social action perspective, knowledge is underdetermined. This suggests that knowledge may remain unused or dormant and, in any case, that it is by no means assured that knowledge will be employed in any optimum sense. In addition, as we have seen, knowledge can of course also find its application for the purpose of highly irrational ends. Knowledge as a capacity for action does not prejudice its use nor does it predetermine the ways and the circumstances in which it may find application. Knowledge is not a *deus ex machina*. The uses to which it is put and the impacts that follow from its application depend on local conditions and contexts (Stehr, 1994, pp. 91–120).

Thus, the authors’ observations also are offered with a sense of some urgency, since, as we have tried to show, the power of scientific knowledge does not necessarily derive from its faithfulness to the truth. This reminder is especially pertinent today, following the discovery that Sweden had a long-standing, state-sponsored eugenics programme, as noted above, and in view of a renewal of social scientific interest in race (McKee, 1994; Lieberman and Reynolds, 1995; Weinstein, 1997, p. 47, n. 2–4)., in the

hereditary bases of behaviour, and in momentous effects of climate on character and society (see, for example, Lerner, 1992; Rushton, 1995). Paradoxically, in this age of globalization, *race* and apposite concepts are experiencing a period of considerable cultural resonance, as is evident from the frequency and intensity of debate on the subject played out in the mass media, in political forums, and in academic circles.⁴⁰ A range of academics, including social scientists, natural scientists, and some self-identified ‘critical’ scholars, have increasingly granted race and/or climate a central explanatory role in accounting for inequalities or group differences.⁴¹ Based on the case study we have documented, it is evident that such an approach can acquire considerable power in practice quite independent of its ‘objective’ merits.

The authors express their thanks to Augustine Brannigan, Robert Citino, S. N. Eisenstadt, Sander Gilman, James McKee, Martin Meissner, Volker Meja, Jack Nusan Porter, Benjamin Singer, Gerd Schroeter, David N. Smith, and Klaus Taschwer for their constructive comments on an earlier draft of this paper. The authors gratefully acknowledge the technical assistance of Irene Knokh, Sonali Thatte, and Amir Allam.

Notes

1. This and later quotations are from the English translation of Erwin Baur, Eugen Fischer, and Fritz Lenz, *Human Heredity*, which constitutes the first volume of their *Grundriß der menschlichen Erblichkeitslehre und Rassenhygiene*, originally published in 1921. The translation is based on the third German edition published in 1927 (with additional supplements and corrections supplied by the authors during the translation, as the translators note). Fritz Lenz is the sole author of the second, untranslated volume; it deals entirely with eugenics.
2. Burleigh and Wippermann (1991, p. 56) note that ‘Contrary to the notion that Nazism somehow corrupted and distorted the temples of learning—which of course it did—one could argue that a corrupt and inherently distorted science lent Nazism a specifically “academic” and “scientific” character’.
3. It is perhaps unnecessary to note that our account of race science is not intended to establish whether or not the field was/is a *scientific* form of discourse. There can be no doubt that, at the time relevant here and in many quarters within and outside of the scientific community, race science was considered to be a prominent and exemplary scientific undertaking.
4. As noted by Berenbaum (1993) and others, race science developed within a broader, Euro-American cultural milieu that considered anti-Semitism to be a reasonable, if not normal, point of view. Earlier general treatments of the roots of anti-Semitism in the West include Poliakov, 1974; and Mosse, 1978.
5. The so-called Nuremberg statutes were issued in several installments, including the ‘Law for the Alteration of the Law for the Prevention of Hereditarily Diseased Progeny’ of 26 June 1935; the Law for the Protection of the Hereditary Health of the German People’ of 18 October 1935; and the ‘Law for the Protection of German Blood and Honor’ of 26 November 1935. Although these are generally understood to be the first set of Nazi race laws, a series of related acts had already established a precedent. Among these were the ‘Law for the Reduction of Unemployment’ of 1 June 1933; the original ‘Law for the Protection of the Hereditary Health of the German People’ of 14 July 1933; the ‘Law against Dangerous and Habitual Criminals’ of 24 November 1933; and the beginnings of racial registration in accord with the earlier Reduction of Unemployment Law in October 1934. From that date onwards, ‘social policy was indivisible from the “selection” of “alien” races and those of “lesser racial value”’ (Burleigh and Wippermann, 1991, p. 48).
6. Katz’s discussion of the shift from religious to racial anti-Semitism is especially informative. His focus on the development of a more ‘scientific’ outlook on Jewish-Gentile relations in Europe supports the characterization of academic race studies as a discipline whose time had arrived.
7. Racial anti-Semitic theories were not an exclusively German phenomenon. However in Germany they appear to have enjoyed especially wide currency and a high degree of political instrumentalisation’ (Burleigh and Wippermann, 1991, p. 36). For a recent discussion of the history of Judeophobia, see Smith (1997).
8. In this diary entry of 31 March 1933, Victor Klemperer (1995) notes that the general boycott of stores and businesses owned by Jews in Germany will start the next day and that the proclamation of the boycott committee commands that religion is irrelevant; what counts is race.
9. Indeed, based on an astounding compilation of information about genocide and race war through the ages, Katz (1994) argues that the innovation of a categorical approach to defining Jews makes the Holocaust *unique* in Jewish history. This claim, as is true of other aspects of Katz’s book, is in dispute; but it does raise pertinent issues in the study of the impact of race science.

10. The next logical step was the discovery of the *Rassejuden*. Those who carried out race policy on a day-to-day basis did not necessarily care about logical and conceptual clarity in their hatred and persecution of Jews. Rather, they often mixed naturalistic-biological and cultural conceptions of identity. For example, as they denounced those who were not ‘*Rassejuden*’ but who were nevertheless critical of the regime as Jewish-Bolshevists or ‘*Judenknechte*’ (cf. Rosenstrauch, 1988). Many also continued to employ traditional religious anti-Semitic constructs.
11. Christopher Browning (1992) closely examined the extent to which racist indoctrination served to ‘soften’ the morality of members of the *Einsatzgruppen* killing squads (see especially Chapter 18). This line of enquiry is also taken up by Daniel Goldhagen (1996), and in the considerable body of commentary generated by his book (for example, Finkelstein, 1997). From these and related sources, it seems clear that the collective de-humanization of the *Entartete Rassen* rendered abusive behaviour toward Jews, including their ‘extermination’, ethically acceptable or even necessary. However it could not make the bloodier aspects of the task more pleasant. Thus, it was necessary to apply principles of complex organization and human engineering so as to de-personalize (and, thus, in the characteristic dialectic of injustice, de-humanize) the execution of race policy. Goldhagen’s view that the Holocaust is explained by destructive anti-Semitism among Germans might suggest that Hitler and the Nazi’s were such virulent anti-Semites that they didn’t need race science to ‘justify’ their deeds. Finkelstein specifically takes exception to this premise, pointing to well-established findings that suggest that scientific and other rationales were necessary so that leaders and ordinary Germans could accept, if not support, policies they felt to be otherwise objectionable. In any case, race science did exist and it was well supported by the regime. Indeed, all ruthless dictators of the twentieth century appear to need a legitimizing ideology deemed to be ‘scientific’.
12. The Racial-Hygienic and Hereditary Research Center in the Reich Health Office was established in 1936 under the directorship of Dr Robert Ritter in order to deal with ‘the Gypsy question’ (Burleigh and Wippermann, 1991, p. 54).
13. These facts obviously contributed to the decisions surrounding the inclusion, placement, and design of the compelling Race Science exhibit at the United States Holocaust Memorial Museum, where Berenbaum served as Director of Research until 1997.
14. The extension of Darwin’s theories to human society lent an air of scientific legitimization to the various utopias involving selective breeding that had been proposed from antiquity onwards by *inter alia*, Plato, Moore, and Campanella. Francis Galton (1822–1911) took the principle of selection further, in the interests of improving the biological health of the *human race*’ (Burleigh and Wippermann, 1991, p. 29, emphasis in original).
15. We are not suggesting that real science is analytically indistinguishable from pseudoscience, or that truth and myth are thus cognate. Rather, we are suggesting that the entire issue, raised by Berenbaum’s characterization of the field as *pseudoscience*, is not relevant to (and may even detract from) our understanding of the impact of *Rassenwissenschaft*. In fact, it was treated as, and thus behaved as, ‘real’ science. As Truzzi (1996, p. 574) pertinently notes, ‘The real danger to science may be from dogma rather than pseudoscience... [and] there are other good reasons to purge the term *pseudoscience* from our disputes. It may simply prove more useful and less incendiary to speak of bad, poor, or even *stupid* theories without entanglement in the demarcation [between “real” and “pseudo”] problem’.
16. The most effective reception and widespread resonance of Gobineau’s ideas took place in Germany. Richard Wagner and Gobineau became friends, for example; Wagner and his Bayreuth circle did much to popularize and disseminate Gobineau’s racial theories. Some of his most influential German interpreters also added an anti-Semitic twist to Gobineau’s ideas, absent from his own work (cf. Weingart *et al.*, 1988, p. 94).
17. Prior to World War I and during the Weimar Republic many existing organizations in Germany incorporated racial theories into their platforms and vigorously demanded political action, including laws to minimize *Rassenmischung*, that is the biological mixing of races. In a study of the so-called ‘Rohobother Bastards’, a group of individuals of mixed Hottentot and Boer origins in German Southwest Africa, published in 1913, Eugen Fischer had concluded, without the benefit of any empirical evidence, that racial mixing invariably had deleterious effects. This conclusion was later often cited in support of policies designed to outlaw *Rassenmischung*. In Fischer’s (Baur *et al.*, 1931, p. 183 [1921]) contribution to *Human Heredity*, he alludes explicitly to the harmful effects for the German nation of race mixing because, as he suggests, ‘the present fate of the German nation’ has been caused and sealed by a different composition of races and is therefore not unlike the fate that befell the ‘Greeks who trembled before the Roman emperors’. In a lecture in Königsberg, only days after the Nazis assumed power, Fischer demanded that those who are racially alien and who have inherited diseases should be weeded out (Weingart *et al.*, 1988, p. 385).
18. During the first meeting of the German Sociological Association in 1910, an early confrontation took place between sociologists who argued in strong terms for the exclusion of any reference to race or other biological categories within sociological discourse. The race-biologist Alfred Ploetz delivered a guest lecture (Ploetz, 1911), advocating precisely the relevance of race for sociological considerations. During the heated discussion, it was Max Weber (1911) who most vigorously opposed any such argument. He made clear what is at stake when sociologists oppose racial approaches. Weber’s intervention exemplifies

the basic theoretical decisions that were taken by those theorists who belong nowadays to the sociological canon. It is noteworthy that Werner Sombart participated as chair of this discussion and took a much more 'conciliatory' position toward the speaker than Weber; that is, Sombart was not prepared to close the door entirely and hoped for joint and additional research on the relation between racial attributes and social processes (Sombart, 1911). At the beginning of the twentieth century and under the dominance of the biological paradigm, sociology tried hard to gain its own professional profile and identity. In order to succeed, the founding fathers had to draw a clear distinction between this new academic discipline and all its competitors. To be sure, Weber does not exclude *a priori* racial explanations of human behaviour or social structures. However he stresses the fact that there is no such evidence available. Between the lines we grasp his conviction that there will never be such an explanation available. He rejects such approaches for two reasons. One is to be sought in his attempt to give sociology a professional profile of its own, the other in his general political outlook. Weber developed his own theory in sharp contrast to naturalistic or biologicistic concepts.

19. The essential ambiguity of Lenz's position was evident, but it does not lead him to abandon the assertion concerning 'spiritual' characteristics. The conviction that these are truly racial attributes is linked to a value-based conception of race (*Rasse als Wertprinzip*, see Lenz, 1933). The spiritual (or mental) features of the races are thus taken to be self-evident and are derived quite independently of any scientific exploration of race. Indeed, the value conception of race justifies both (1) this special convergence of ideology and science (cf. Weingart *et al.*, 1988, pp. 102–103), and (2) the strategic alliances between scientific and non-scientific associations willing to support and push for a realization of the political agenda of race science. None the less, the social scientists in the already exiled *Zeitschrift für Sozialforschung* continued to express the hope that race science as a valuable natural science could be immunized against race science as a pure ideology (Landsberg, 1933, p. 388)
20. We have changed the translation slightly to better reflect the original meaning.
21. Here and in several other respects, Benoit Massin's (1996) historical study is crucial to understanding the intellectual and social forces that led to the rise of Fischer and his school. Gilman (1996, pp. 77–84) cites a related work by Andrew Lyons (1974) that covers an earlier, but overlapping, period.
22. The science-policy complementarity is reflected in several ways, including the fact that not only were most of the academic scientists Nazis, many were also SS members (including Fischer), relevant government bureaus in the areas of education, racial hygiene, and medicine were staffed by race scientists, and courses in racial hygiene were required in all civil and military training programmes. Burleigh and Wippermann (1991) and Lerner (1992) provide considerable historical detail on the race science/race policy interface.
23. At least some race scientists assumed that the capacity to understand race effectively was itself genetically determined. Thus, some kinds of science (e.g. monogeneticism) are Jewish and thus corrupt, whereas others are Aryan, anti-Semitic, and therefore true. Moreover, as the German race scientist Joachim Haupt (1933, p. 2) observed in 1933, 'Race theory and the völkische idea provide research with a generally valid value concept based on results achieved by way of the methods of natural science. Such a concept reestablishes the basis for the hierarchical ordering of scientific work which had been lost in the epoch of liberal science, merely concerned with the collection of empirical evidence'.
24. This and the following section rely heavily on the volume by Baur *et al.* As is clear from the bibliography, and the listing of other editions in the book's series in the original German version, this is just one of numerous items published on race science during the field's brief history. Nevertheless, it is the definitive text, divided into sections for which one or the other principal authors draws on scores of published and unpublished reports. Lenz (1931, p. 303) writes appreciatively that Hitler embraced the ideas of race science, reporting that he has been told that Hitler read the second edition of the volume by Baur *et al.* while in jail in Landsberg.
25. An informative description of the rise and fall of the influential Fischer Institute during the Nazi era may be found in Weingart *et al.*, 1988, pp. 413–24.
26. The early and close affinity between race scientists, anthropologists and geographers, sociologists and other social scientists who were proponents of racial doctrines in Germany—and yearned to see their science translated into applied science—indicates clearly that it was not necessary for the Nazis, once in power, to falsify or corrupt the knowledge that emanated from academic race science (see also Weingart *et al.*, 1988, pp. 381–89). In fact, once the Nazis had assumed power, social scientists who already had displayed an ideological affinity to the Nazi doctrines began to quarrel among themselves over who should be credited with originating the doctrine. The case of Werner Sombart, for example, is documented in Lenger, 1994, p. 365; also see Lenz, 1933.
27. The six principles listed in this section are based on several sources, including the works of Lenz and the other race scientists cited (Burleigh and Wippermann, 1991; Lerner, 1992; Rushton, 1995).
28. These principles had all been adumbrated by the Friedrich Nietzsche (1880, p. 189) passage translated by Burleigh and Wippermann (1991, p. 34) as early as 1880: 'Satisfaction of desire should not be practiced so that the race as a whole suffers, i.e. that choice no longer occurs, and that anyone can pair off and produce children. The extinction of many types of people is just as desirable as any form of reproduction. Much more so: marriage only (1) with the aim of higher development; and (2) in order to leave behind the fruit of such persons. Concubinage is enough for all the rest, with measures to prevent

- conception.—We must do away with this crass lightheartedness. These geese must not marry! Marriage must become much less frequent! Go through the towns and ask yourself whether these people should reproduce! Let them go to their whores’.
29. The rejection of Lamarckian principles was extremely important to the race scientists, who justified their zeal on the grounds that any appeal to hereditary mechanisms other than pure Darwinian natural selection was unscientific. As a matter of fact, we know that socio-cultural traits (one might even say ‘mental capacities’) are routinely acquired during the course of one generation and transmitted to subsequent ones, not genetically, of course, but through enculturation. For example, a man and a woman born in Italy and Italian speaking from a very early age can readily migrate to an English-speaking country, such as the USA, acquire the English language later in life, marry, have children, and raise their offspring in a household in which only English is spoken. The children would thus have inherited (in the sociocultural sense) an acquired characteristic. To equate this situation with the imagined case of, say, giraffes who stretch their necks to reach the leaves on tall trees and then pass the long-necked trait to offspring is the height of sophistry. Yet, this is precisely the line of argument taken by Fischer and his colleagues in their refutation of Franz Boas’s allegedly Lamarckian bias (Lenz in Baur *et al.*, 1931, pp. 689–90 [1921]). Despite the profound differences in the way they deal with group-based ‘mental capacities’, Boas is classed along with the Marxist materialists and Marx’s idealist critics as ‘in truth warring brethren, being children of one father, Lamarck’ (Lenz in Baur *et al.*, 1931, p. 697 [1921]). Herbert Spencer’s insights on cultural acquisition continue to be dismissed on similar grounds (Ashley and Orenstein, 1995, Ch. 5).
 30. The ‘Teutons’ were classed as a branch of the Nordics (cf. Lenz in Baur *et al.*, 1931, pp. 627–65 [1921]).
 31. Clearly these principles, and the practical implications that they represented, were by no means confined to German race science. These comments also suggest a critical, comparative—but unexplored—line of investigation. That is, to specify the social, political, and intellectual conditions that limited the impact of race science on public policy in the USA (in light of the fact that race policy was incorporated into the Constitution and has been part of legislation to this day). Significantly, Huntington’s ideas failed to advance from the stage of ‘science knowledge’ to practical knowledge, and thus into the political-legal arena.
 32. Huntington (1926, pp. 76–78; cited in Gilman, 1996, p. 51) does not attribute Jewish traits, including their fabled cleverness, to climate. Rather, in a fairly typical excursion into racial explanation, he links this mental trait to the selective survival of the mentally capable but physically weak after the Jews’ defeat at the hands of the Romans in 79 AD.
 33. Amidst the controversy generated by the publication of *The Bell Curve* (Herrnstein and Murray, 1994), little notice was taken of the fact that the use of I. Q. scores to measure the dependent variable had been employed several decades earlier by the race scientists and that then, as now, this practice was commonly tied to the promotion of eugenics policy.
 34. The Marburg psychologist Erich Jaensch (1930) has been credited with providing the formative theory of the Jewish mind, although his major work appeared several years after the publication of the sections of the volume by Baur *et al.* cited in the text (cf. Jaensch, 1927).
 35. As Gilman indicates, one can discern a kind of triple stereotype developing in Europe and the USA as the influence of Darwinian thought spread throughout and beyond academic circles: (a) Jews are *genetically* different; (b) this difference is associated with their superior intelligence; and (c) there may indeed be a sinister side to their extraordinary wits. The body of literature on the subject of Jews and Jewish ‘mental traits’ upon which the formal race science of the Weimar and Nazi eras was based is thus extensive (see Gilman, 1996, pp. 33–40, 53—where Lenz is cited, and pp. 211–14, notes 1–16). It includes works by Galton (1962 [1892]) and, in the USA Mark Twain (1895; also Gilman, 1993) Jewish writers at the peripheries of the academic establishment even created a ‘positive’ race science in which supposed Jewish physical and mental’ traits were viewed as the most advanced (Efron, 1994; Gilman, 1996, pp. 63–71).
 36. Henry Ford was well respected in Nazi Germany, and played an especially prominent role in popularizing anti-Semitism there as well as in the USA; he is also one of the few Americans cited by Lenz, and the only one cited by Hitler in *Mein Kampf*. Leading American *academic* race scientists of the era included Madison Grant and Lothrop Stoddard. See, for example, Grant (1918) and Stoddard (1924). A brief but thorough account of the connection between American race science and Nazi race policy, via the eugenics movement, is provided by Kühl (1994). Gilman (1996, p. 233, note 1) observes that ‘The association of the Jew with “intelligence” is an old American trope’.
 37. As always, Hitler was far more blunt in making essentially the same point. In a communication with Himmler in 1942 he observed that ‘the discovery of the Jewish virus is one of the greatest revolutions that has taken place in the world. The battle in which we are engaged today is one of the same sort as the battle waged, during the last century, by Pasteur and Koch. How many diseases have their origin in the Jewish virus! We shall regain our health only by eliminating the Jew. Everything has a cause, nothing comes by chance’ (Cameron and Stevens, 1988, p. 332; cited in Burleigh and Wippermann, 1991, p. 107).
 38. The Jewish Museum of Amsterdam has an exhibit of photographs of Jewish women from all parts of the world that beautifully illustrates the ‘racial’ diversity of the Jewish peoples. The contrast between the first photograph, of a Polish-born Israeli girl dressed in blue jeans and T-shirt, and the last, a black girl from sub-Saharan Africa in tribal dress with the ‘chai’ symbol on her neck, is especially striking.

39. Given such a conceptualization, one is of course immediately reminded of Francis Bacon's famous proposition about the power of knowledge about nature or, more generally, the power of knowledge (although it cannot be found in Bacon's writings precisely in these terms). In this context, Bacon uses the phrase *scientia est potentia*, whereby the term *potentia*, that is, 'capacity', is employed to describe the power of knowing.
40. Daryl Michael Scott (1997) provides an insightful discussion of the race concept and race policy in the USA. Two historical works, one an essay and the other a collection, that relate specifically to Nazi Germany, Mason (1993) and Crew (1994), are noteworthy, as is the above cited monograph by Rushton (1995).
41. In Germany today, race science is by no means absent from teaching and research in the university setting, nor is it simply dormant. A recent article in *Der Spiegel* (12 May 1997) refers to ongoing controversies in the University of Hamburg and its Institute for Anthropology that is dominated by race scientists. In addition, there are at least two other anthropology units, at the Universities of Mainz and Kiel, where subjects with intellectual affinities to race science continue to be practiced. This is not all that surprising considering the ease with which race scientists, race hygienists and their assistants from the Nazi era, including Fritz Lenz in 1947 at the Universität Göttingen, were able to retain appointments or found themselves appointed after the War to university chairs and heads of research institutes in Human Genetics, Anthropology, Population Science and Psychiatry in West Germany (Kühl, 1997, pp. 176–81). The emergence of a kind of neo-climate determinism in turn is critically discussed in Stehr and von Storch, 1997.

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Appendix: Race works—some other cognitive and affective consequences

In addition to the imagination/deferred-gratification syndrome, the race scientists identified a wide range of other characteristics presumed to reflect the races' respective mental gifts—again with their characteristic lack of interest in measurement. Although these are typically presented unsystematically, they tend to cohere in what might be termed 'packets of stereotypes': bits of common lore concerning how certain kinds of people are supposed to behave.

The general context of the commentary establishes a close and easy connection among several formative traits, principally the ability to defer impulse gratification, intelligence, maturity, mental health, and 'Nordicness', hence no effort is made by the commentators to indicate precisely which of these traits gives rise to other specific differences.

Emotionality is discussed frequently in this context. For instance, Lenz contrasts 'the Negro' who 'vacillates between a cheerful indifference and a hopeless depression' (in Baur *et al.*, 1931, p. 629 [1921]) with a typical member of 'the Nordic race', who 'has little taste for superficial sociability and superficial cheerfulness, but the current of his feeling runs strong and deep. In warm cordiality the Nordic race is inferior to none' (p. 660). Thus, what we would today label 'bipolar disease' (manic-depressive psychosis), seems to the race scientists clearly to be correlated with genetic inheritance along racial lines, in association with lack of intelligence and criminality. Notwithstanding the continuing uncertainty about the causes of this fairly common affliction, the reader is presumed to understand how and why this somewhat astounding variety of personality and cultural characteristics go together: because the 'good' ones are more advanced/Nordic/white, whereas the 'bad' ones are regressive, un-Nordic, and black.

In some cases the imputed association is evident. Sexual behaviour, for instance,

obviously reflects degree of maturity and the propensity to delay gratification: ‘We may suppose ... that the notorious lack of sexual control manifested by Negroes is not so much due to any exceptional strength of the sexual impulse as to general childish lack of the power of restraint’ (Lenz in Baur *et al.*, 1931, p. 634 [1921]). Predictably, in contrast, ‘The Nordic is fastidious in his love, but never cold. Frenssen, the Norse poet, who is well acquainted with the Norse mind [and thus, one supposes, is to be accepted as a scientific authority on the subject] lays frequent stress upon the vigour of the sexual temperament among the Nordics, and is right in so doing’ (p. 660).

In other cases, however, the connection is less direct. While seemingly remote from the realm of biological drives, the ability to create complex organizations, too, is understood to be a racial mental trait. ‘The organisational and political faculties are very poorly organized in the Negroes. They have never produced any kind of social structure worthy to be compared to those in Europe and Asia’ (Lenz in Baur *et al.*, 1931, p. 634 [1921]). However, ‘In the Mongol, it is above all the hereditary factors tending to promote an aptitude for social life which are well developed’ (p. 635).

Standing somewhere between these sorts of biological and social capacities in Lenz’s catalogue of hereditary mental traits are what we might term aspects of character, or even taste. These include:

1. Honesty: ‘Every Chinaman lies, even when he seems unlikely to gain anything by it’ (Lenz in Baur *et al.*, 1931, p. 637 [1921], citing ‘a medical practitioner who has lived for many years among the Chinese’). Also, ‘The southern European has less sense of truth and honor than the Nordic’ (p. 641). On the other hand, ‘In the Nordic lands, one can trust the word of a manual worker ... Such honesty and straightforwardness are, to say the least of it, by no means the rule in southern lands’ (p. 660).
2. Frugality: ‘The Mongol’s most powerful weapon in his competition with persons of other races is his frugality’ (p. 637).
3. Appreciation of music: ‘Near Easterners are extremely musical; indeed, I think the Near Eastern is the most musical of all races’ (p. 645). ‘For music, which expresses the emotions of the soul, I do not consider the Nordic race to be especially gifted’ (p. 661). Lest one suspect that this renders the latter race somehow inferior, Lenz quickly adds, ‘Although it is true that a great many among the most distinguished composers are mainly of Nordic blood, it seems to me [QED?] that what they owe to their Nordic heritage is rather their mental creative faculty than their musical endowment proper’.
4. Capacity for work, creativity, business acumen, and the like: whereas the Negro is ‘clever with his hands, is endowed with considerable technical adroitness, so that he can easily be trained in mental crafts’ (p. 629), ‘no other race can compare with the Mongoloid in its capacity for sticking to primitive and monotonous labor’ (p. 637). The Oriental race, in contrast to both of these less advanced groups, ‘is distinguished alike for its shrewdness and for its energy and enterprise’ (p. 643). However, above all, ‘The great scientific discoveries, the most important inventions, and other mental [*sic*] acquirements of the present day are almost all derived from the north western part of Europe ... or from North America’ (p. 650).

This list by no means exhausts the entirety of the race and climate scientists’ set of dependent variables. It does however strongly suggest the kinds of human characteristics

they believed to be manageable under a regime of race hygiene, the traits that would and should be selected-in or -out of future gene pools. Once more, we wish to stress that this compilation of widely-accepted racial stereotypes was never subjected to the critical scrutiny, to the tests of scientific validity and reliability, afforded the dependent variable and IQ and crime rates. Evidently, the grain of truth contained in them was sufficient to support the credibility of the entire project. Indeed, because ‘everyone knew’ these to be racial differences, such scrutiny was unnecessary.

Far more important in understanding the appeal of the doctrine were its practical implications. In this regard the attraction is obvious: applied race science, based on the assumption that the propensity to defer gratification—along with the other traits—does vary as proposed by Fischer and his colleagues, had at its disposal the means to maximize the civilization-promoting, good features of humanity and to minimize the uncivilized and the bad. Whether ultimately right or wrong in its faithfulness to the true facts of human variability, if effective, such a science would inevitably work to benefit the good (that is, it would promote Nordic qualities). This, indeed, is policy science *in extremis*.