

HUMANITY AT THE LIMIT

*The Impact of the Holocaust
Experience on Jews and Christians*

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Heredity and Genetics after the Holocaust

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I WRITE THIS essay not as an historian of science, but as a biological anthropologist, and one keenly aware of my intellectual lineage. My intellectual ancestors were measuring skulls and determining racial allocations on that basis,¹ and even if they were critical of Nazi anthropology, it is nevertheless difficult in retrospect to distinguish Nazi physical anthropology from American physical anthropology of the same era. The history of science is vital for understanding where we are as scientists, how we got here, and what mistakes we've made, so we don't make them again.

The themes that jump out at me from Professors Weingart's and Kevles's essays involve the general questions "What good is history?" and "What are the responsibilities of scientists?" As both essays point out, we live in an age that has transcended the eugenics era in some ways—no one is talking about sterilizing the poor on account of their genes any more. But of course, there are still contemporary social discourses concerning heredity and class, as 1995's best-seller *The Bell Curve* showed.² What is interesting about *The Bell Curve* is that it included no genetics, but did contain an appeal to heredity as an explanation for the lot of the poor. And significantly, when invited to invoke their authority to critique the work, the American genetics community was exceedingly reluctant.

In other words, there is still politics of heredity and still social consequences in politicizing heredity.

Heredity and Genetics

The first of three general points I will raise, then, is that we need to recognize the existence of parallel discourses about heredity. The one that both papers focus on is the scientific genetics of blots, bands, and gels—the hard science of genetics.

But as *The Bell Curve* shows, there is another form of hereditary discourse out there, one that has no recourse to the blots, bands, and gels of modern genetics, but speaks in idioms from another era. For example, a recent issue of the *Atlantic Monthly* featured a cover article by a distinguished Pulitzer Prize-winning entomologist, Edward O. Wilson of Harvard.³ It was provocatively called "The Biology of Morality." Professor Wilson, writing from the stand-

point of sociobiology, writes glibly about the genetic basis of xenophobia—hatred of aliens, or foreigners, or those different from you. You'll find similar things in recent books called *Demonic Males*, by a distinguished primatologist named Richard Wrangham,⁴ and *The Third Chimpanzee* by another Pulitzer Prize winner, Jared Diamond.⁵

Now, the genetic basis for "xenophobia" is like the genetic basis for "feeble-mindedness" of the 1920s in being wholly imaginary, but unlike it in being ostensibly a pan-human universal, not a factor that ostensibly some people have and others lack.

So it is not about blots, bands, and gels, but rather, it represents the vocabulary of modern genetics grafted onto archaic, essentialized speculations about human nature.

But talking about genes for xenophobia like genes for cystic fibrosis or hemoglobin raises some unsettling questions of relevance to this conference. In Diamond's *The Third Chimpanzee*, you will find an interesting discussion of genocide—as merely a manifestation of those bad genes we all possess for xenophobia.

Now of course, one needs to tread a delicate line here. One does not want to celebrate or glorify martyrdom and victimization, for that serves to parochialize the experience and limit its meaning. But at the same time one does not want to trivialize it, which is precisely what I think the genetic explanation does.

The argument presented in sociobiology—and it is very likely being taught as biology and as science in your university—is how easy it is to hate and want to kill others unlike you. But I think that's a trivial observation, because it presupposes a natural difference between the two groups, the oppressors and the victims.

Of course, alienness is a construction, not a fact of nature. The greatest hatreds are between the peoples who are biologically the most similar: Hutu and Tutsi, Bosnian and Serbian, Israeli and Palestinian, Huron and Iroquois, German and Jew, English and Irish.

The lesson of the Holocaust, I think, resides not so much in the attempt on the part of one group to destroy another, which is indeed a recurrent tragic theme of human global history; but rather in the recognition that it was carried out by Europeans against themselves and that it took place in an age in which some form of enlightenment was thought to have existed.

What we learn from presupposing genes for it is unclear—except in entailing the absolution of responsibility. "It wasn't our fault, it was just human nature"—which is certainly a perverse use of genetics.

The reason I raise this point is to ask the question: Where is the genetics community here? Where is their critique of *The Bell Curve*, and of sociobiology and of its offshoot, so-called evolutionary psychology, which appropriate their vocabulary and proceed to use it in ways unfamiliar to geneticists

themselves? Where are their withering critiques of the behavioral genetics laboratory that claims to have discovered the genes for homosexuality, novelty-seeking, and worry?⁶ The answers to this question are complex, but are suggested in Professor Weingart's essay in relation to the 1930s, when he notes the motives of opportunism and profit for the geneticists to collaborate with the Nazi political machine.

That brings up a second point: Where do a geneticist's economic interests lie? The answer may sound cynical, but it's a crucial connection between the 1920s and the 1990s: *It is in a geneticist's interests to have you believe that everything significant in life is genetic.* The revolutionary difference between the social Darwinists and the eugenicists (aside from the fact that the social Darwinists wanted *less* government and the eugenicists wanted *more*) is that the eugenicists claimed to frame their ideas around the science of heredity.

The Responsibilities of Geneticists

We need the geneticists to distinguish the sound inferences about heredity from simple quackery. For if they don't, who can? But it is unclear that they can or that they will. Why? There are two reasons. In the first place, geneticists share the same cultural values and ideologies as other members of their society, class, and era. One's own cultural prejudices are almost always invisible. And in the second place, why would anyone expect them to kill a goose that lays golden eggs?

One of the juiciest epigrams in the world of genetics, widely quoted, was a line of James Watson's (co-discoverer of the structure of DNA) in *Time* magazine in 1989. Said Watson, "We used to think our fate was in the stars. Now we know, in large measure, our fate is in our genes."⁷

Now there are at least three ways to read that statement. First, it might be a scientific statement, subject to empirical test. We may have fates, they may be localized to our cellular nuclei, and genetics may indeed be like astrology, only presumably more accurate.

Second, it obviously articulates a social philosophy, one that would be easily recognizable to Charles Murray, author of *The Bell Curve*, as an explanation of why poor people are poor: their fate was in their genes. And one to which he would naturally be sympathetic.

But third, and most importantly, the statement is a grant proposal. It was a public appeal in *Time* magazine to fund the study of genetics.

Now it is very important to give Watson credit for having introduced the allotment of a small percentage of the Human Genome Project's budget for the study of Ethical, Legal, and Social Implications (ELSI). But at the same time, we have to examine the rhetoric very carefully. The times change, the victims change, the technologies change, the issues change. What remains the same is

the invocation of science, of progress—as an institutionalized authoritative tool for victimization.

What are the responsibilities incurred here by biologists and geneticists? They were very slow to criticize the genetic rhetoric of the 1920s; they are no faster now. The critics of eugenics in America were people like anthropologist Franz Boas and lawyer Clarence Darrow, defenders of civil liberties. Darrow, for example, published a wonderfully eloquent critique called “The Eugenics Cult” in 1926.⁸ In so doing, he evolved from biology’s chief defender in the 1925 Scopes trial to its chief basher a year later. There was as yet no biologist on public record critical of the movement, willing to challenge the major players. Raymond Pearl of Johns Hopkins would be the first, with an article in the same magazine (his friend H. L. Mencken’s *American Mercury*), called “The Biology of Superiority.”⁹ To have a major geneticist break ranks was newsworthy, and indeed, the publication of Pearl’s article was widely reported by the Associated Press on October 25, 1927.

This issue may require a bit of amplification. The eugenics movement in America had a broad base of appeal, but its principal validation came from geneticists. In the late 1920s, for example, virtually every leading geneticist in America could be found on the Advisory Council of the American Eugenics Society (which was incorporated in 1925). One exception was Thomas Hunt Morgan, whose office was located in the same building as that of Franz Boas, in Schermerhorn Hall at Columbia University. Boas had been criticizing the movement since 1916, and wrote a scathing review of Madison Grant’s *The Passing of the Great Race* in *The Nation* that year. Morgan, on the other hand, declined to review the book, and limited his criticisms of eugenics to some softly sarcastic comments in articles and books published in the mid-1920s. The other exception was Herbert Spencer Jennings of Johns Hopkins, who had reanalyzed the eugenic data purporting to identify a gradient in criminality among U.S. immigrants, increasing from northwest Europe to southeast Europe, thus justifying the immigration restriction laws. Jennings found the analysis to be flawed and wrote to the president of the American Eugenics Society, Yale economist Irving Fisher. When no action was taken as a result of his findings, Jennings resigned in 1924. Even then, he was Fisher’s choice to succeed him as president of the American Eugenics Society in 1926, an honor that Jennings declined.¹⁰

The interesting question is, who *remained* on the “Advisory Board” of the American Eugenics Society, permitting their names to be used below or alongside such infamous demagogues as Madison Grant (*The Passing of the Great Race*, 1916) and Lothrop Stoddard (*The Rising Tide of Color*, 1927)? The answer is: nearly all major biologists and geneticists—E. G. Conklin of Princeton, William Castle and Edward East of Harvard, Michael Guyer of Wisconsin, Herbert Walter of Brown, A. Franklin Shull of Michigan, C. C. Little of

the Jackson Laboratory, Samuel J. Holmes of California-Berkeley, Horatio Hackett Newman and Sewall Wright of Chicago.

There are no genetics textbooks from the 1920s that fail to advocate eugenics. Perhaps the most illustrative case is that of *Principles of Genetics*, written by E. W. Sinnott and L. C. Dunn (who would later become an outspoken critic of racist biology). In their first edition, they included a fairly standard chapter on eugenics, recommending to college biology students the sterilization (or worse?) of the poor: “[E]ven under the most favorable surroundings there would still be a great many individuals who are always on the border line of self-supporting existence and whose contribution to society is so small that the elimination of their stock would be beneficial.”¹¹ Their second edition was published in 1932, after the market crashed and *everyone’s* stock was eliminated, and so was that entire chapter, and the word “eugenics” has but a single referent in the index. The word does not even appear in the index of the third edition of 1939, nor in the fourth edition of 1950, now with Theodosius Dobzhansky as co-author.

But neither do those later editions contain a critique or an admission. There’s just a burial of history, which obviously entails a failure to confront it, and raises the possibility of re-living it.

The point is, can we really expect anything different today, without changing the cost/benefit ratio for the geneticists? If Watson’s rhetorical excess is good for business, it won’t be criticized by the genetics community, and that will be the same mistake they made in the 1920s. If one cannot serve both God and Mammon, can we really fault modern geneticists for choosing Mammon?

The Cutting Edge of Bioethics

The last point I want to make concerns the silver lining to come out of the institutionalized scientific racism of the 1920s and ’30s, namely the origin of modern bioethics, in the Nuremberg Code.

The bad news is that it is not widely part of the education of geneticists, so its ideas are still precarious. The ways in which that is so again relate to the universalizing theme behind this volume. We need to remember that the people who occupied “our” space five hundred years ago were not “our” lineal ancestors. They were someone else’s ancestors.

The Human Genome Project articulated its goal early on, over a decade ago, to sequence the human genome. What did that mean? Within the framework of a medicalized view of the human genetic structure, each gene comes in one widespread normal form and a few rare, deviant forms leading to disease. Most people have the normal cystic fibrosis gene; the few that don’t, have cystic fibrosis. Most people have the normal Tay-Sachs disease gene; the few that don’t, have Tay-Sachs disease. Extrapolating that over the tens of thou-

sands of genes we have, we might imagine building up a library of the structure of the normal genes and thereby the normal human genome.

That was criticized very quickly for its implicit conception of normality, which took all variation as effectively pathological. If you take as your model not the cystic fibrosis gene, but the gene for blood type—where all human populations have type A, most have type B, and all have type O, and they all are normal—you realize there is a different pattern there than the one assumed in the formulation of the medical genetics of the Human Genome Project.

Thus in 1991, a group of population geneticists led by Stanford's Luca Cavalli-Sforza, whose liberal credentials were unimpeachable, began to push for an augmentation to the genome project, namely a human genome *diversity* project.¹² The problem was that they articulated a strange goal, namely, to open the veins of the indigenous peoples of the world and bring their blood back to Palo Alto to be studied by geneticists.

The fact is, such studies had been conducted on a small scale for decades, but this was being proposed with the Genome Project as a springboard—big science, big press, big money—and somewhat unexpectedly, big accountability.

And here is where the Nuremberg Code fails. The Code specifies that a scientist must receive “voluntary consent” from the subject. Obviously that assumes efficient communication, a shared idea system, between the parties. Those of us who actually teach human genetics to elite first-world college students know it is hard enough to get *them* to understand the ideas. Imagine trying to get the voluntary informed consent of a non-literate Khoisan forager in Botswana, who has entirely different ideas about heredity, about the body, about medicine, about reproduction, about the nature of the blood, than you do.

It is axiomatic in anthropology that blood is never “just” blood. Blood is invariably powerfully vested with magic and surrounded by taboos. Consequently, it's not too easy to talk other people out of their blood, so you need to be very persuasive.

The supporters of this project framed it publicly in terms of a need to study peoples on the verge of extinction.¹³ But they quickly had their priorities questioned; if the people were on the verge of extinction, saving their DNA seemed to be a perverse priority. Moreover, the supporters represented the very colonial powers that had decimated these peoples. One could hardly fault the project's intended subjects for thinking, “You took our land, eliminated our lifeways, killed our people, and now you want our blood.” So by the mid-'90s, the project had come to be known as the Vampire Project, evoking an image of scientists lusting after the veins of indigenes, with ice water in their own.¹⁴ The population geneticists responded by emphasizing their benign “purely scientific” goals, but when it came to light in 1994 that other scientists had recently obtained a patent on a cell line derived from a New Guinea tribesman,

it became clear that there were issues of economic exploitation at stake. In a free market of bio-prospecting, the blood of natives was the mother lode.¹⁵

The most interesting claim made on behalf of the Diversity Project is that it will permit us finally to know the ultimate micro-phylogeny of the human species—who is related to, and descended from, whom. As I heard one of their spokesmen say to an audience of bioethicists, “We’re going to tell these people who they really are.” I’m happy to report that the audience was more sensitive to the issues of identity construction and identity politics, and the assumption of authority, than the geneticists appeared to be.

History confers identity, and identity is political, and identity politics is an arena in which geneticists are uniquely unqualified to work. As one Native American responded, “You want our assistance to tell us that our ancestors are not really our ancestors. You must be crazy.”

The next step, given the difficulties in establishing honestly the repository they dreamed of, was to piggyback the collection of the material. A population geneticist at Yale, active in the Diversity Project, bragged to me last year that he had a new source of Nigerian blood. What was it? A local physician was studying schizophrenics, and doing blood tests, and agreed to send the population geneticist a bit of each sample. Of course, the subjects had not consented to the use of their blood for this other study, but he got his samples. On the other hand, his victory was Pyrrhic: the Human Genome Diversity Project itself has been derailed by a report from the National Research Council, which found it poorly conceptualized and bioethically untenable as presented.¹⁶

* * *

There are indeed continuities between genetics of the 1930s and the 1990s. In a post-Shoah civilization that aspires to the implementation of universal human rights, the exceedingly technological training of modern geneticists leaves them largely unschooled in those very humanistic values that constitute the advancement over their own predecessors. It should be no surprise, then, to find genetic subjects objectified and exploited, and often interpreted in racialized narratives. And I will just note in this context the Diversity Project’s claim in the scientific literature that the European gene pool is composed of 65 percent Asian genes and 35 percent African genes¹⁷—a claim so laden with archaic assumptions that to the eye of the modern anthropologist it might as well have been printed in cuneiform.¹⁸ And even more important, metaphysical genetic arguments are still invoked in support of public policy issues, while geneticists themselves sit quietly, either in agreement, or just cynically calculating the benefits that widespread belief in the genetic basis of xenophobia, altruism, homosexuality, intelligence, crime, and personality will have for their next grant proposal.

When geneticists today aver that social issues are rooted in the hereditary constitutions of circumscribed groups, or fail to deny it, they have the same

conflict of interest that their predecessors had. That is why I find the sound bites of geneticists generally unreliable—I have no way to know whether they are speaking from their knowledge or from their pocketbooks.

That poses a dilemma for the rest of us that non-geneticists of the 1920s and '30s also faced. The greatest success of the eugenics movement was its ability to identify itself with science, biology, genetics, evolution, modernity, progress. To call into question the racism, the curtailment of human rights, the worst elements of science that eugenics also represented with the same zeal and the same authority—to question it was to position yourself against genetics, science, evolution, progress. How do we tease apart the folk ideologies of heredity from science, and use it to help people rather than to stigmatize them?

Today the universe of geneticists who could identify Charles Davenport or Eugen Fischer is a small one. It is a dual tragedy that the history of genetics is more widely perceived as threatening than liberating—a tragedy both for geneticists and for society. For if a lesson of the Shoah is that the world must never forget, how tragic indeed would it be if the scientific ideologues, Darwin's willing executioners, were allowed to forget.

NOTES

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