Why Be Against Darwin? Creationism, Racism, and the Roots of Anthropology

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ABSTRACT In this work, I review recent works in science studies and the history of science of relevance to biological anthropology. I will look at two rhetorical practices in human evolution—overstating our relationship with the apes and privileging ancestry over emergence—and their effects upon how human evolution and human diversity have been understood scientifically. I examine specifically the intellectual conflicts between Rudolf Virchow and Ernst Haeckel in the 19th century and G. Simpson and Morris Goodman a century later. This will expose some previously concealed elements of the tangled histories of anthropology, genetics, and evolution—particularly in relation to the general roles of race and heredity in conceptualizing human origins. I argue that scientific racism and unscientific creationism are both threats to the scholarly enterprise, but that scientific racism is worse. Yrbk Phys Anthropol 55:95–104, 2012. © 2012 Wiley Periodicals, Inc.

Because the methods of science are so diverse (including observation, experimental manipulation, qualitative data collection, quantitative data analysis, empirical, and hermeneutic research; and ranging from the synchronic and mechanistic to the diachronic and historical), it has proven to be difficult to delimit science as practice. What seems to distinguish science from other domains of human thought and activity is not so much a methodological demarcation, as an epistemic demarcation. That is to say, what is unique and interesting is not what scientists do, but how they think (Feyerabend, 1975; Dupré, 1993). Malinowski (1925, 1935) called attention to the patterns of interpenetration between the world of magic and the world of reality among nonscientific people. Scientific thought is different, and an anthropological view of science can see it as bounded by three fundamental or epis temic assumptions that emerged in the 17th and 18th centuries. One such assumption of modern science is naturalism, the idea that there is a basic division to be drawn between the natural and the supernatural realms, the former being the domain of law and matter, and the latter of miracle and spirit. Another is empiricism, the idea that validity is judged exclusively by accuracy, a goodness of fit between theory and reality. And a third is rationalism, the idea that reason is the surest path to knowledge, to be privileged over other sources of knowledge, such as tradition, revelation, or intuition.

We can readily note that science strives to produce the most accurate knowledge about the universe and consequently often succeeds. Nevertheless, from the perspective of anthropology, and most specifically, an anthropology of science, even the choice to privilege empirical accuracy over all other criteria can be interrogated. There are, after all, mundane situations in which the empirical truth is to be assiduously avoided—for example, in polite conversation. It was Mencken (1956) who observed that everyone is entitled to the delusion that their spouse is attractive and their children are bright.1

It is actually no great scandal to reject science. In the first place, nobody rejects all science; that person exists only in the imagination of a paranoiac. In the second place, we all have criteria for deciding what science to reject—at least, we might generally agree to reject financially conflicted, racist, sexist, fraudulent, unethical, and/or incompetent science (Tucker, 2002; Goldacre, 2009; Marks, 2009a; Rosoff, 2010). If nothing else, the history of physical anthropology attest to that point (Little and Sussman, 2010). The people who did not accept Arthur Keith’s scientific ideas about Piltdown Man, Robert Bennett Bean’s scientific ideas about racial craniometrics, Charles Davenport’s or Eugen Fischer’s scientific ideas about race mixture, Earnest Hooton’s scientific ideas about criminal anthropology and eugenics, Carleton Coon’s polygenism, Richard Leakey’s ER-1470, or David Pilbeam’s Ramapithecus were the smart, critical thinkers. Science education does not consist of believing everything scientists say, however normative and authoritative it may seem—for that would be utter credulity, the very opposite of science education. Biological anthropology occupies a unique position as a science. It is, after all, responsible for the production of

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1Interestingly, specifically by analogy to the idea of freedom of religion (Mencken, 1956: 3).

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the authoritative story of who we are and where we came from. That story, however, is a story of kinship and is necessarily highly politicized—as stories of origin and descent invariably are (Abu el-Haj [2001]; Zerubavel [2012]). This places cultural constraints and responsibilities upon the biological anthropologist that do not fall upon the biologist, if the domain of human evolution is seen as partaking jointly of the study of life (i.e., biology) and the study of how we see ourselves in relation to other kinds of beings (i.e., anthropology). That is why the Butler Act, prohibiting the teaching of evolution in Tennessee in the 1920s, did not ban evolution, but specifically human evolution, from the curriculum. The clash with the creationists has always been largely a cultural one (Livingstone, 1984; Robbins and Cohen, 2009). This ought perhaps to make anthropologists especially sensitive to the cultural issues involved. Where someone trained as a biologist might well avoid the matter entirely and stick to fruitflies, someone trained as an anthropologist ought to be uniquely situated to confront issues that are both epistemological/scientific and cultural/semiotic.

This is the juncture at which the scientific uniqueness of anthropology should become evident. As a person studying people, the anthropologist is denied the objectivity claimed by the biologist, as a person studying fruitflies (Coon, 1968). One classic solution is to pretend not to be a person. This literary trope was first made famous by Huxley (1863), who was attempting to convince his readers that, based on their physical features, humans ought to be zoologically classified with the apes. Of course, we are stuck in the position of being humans classifying humans, so how can we achieve the desired objective distance? Huxley’s answer: By substituting science fiction for science and denying the one incontestable biological fact here—that we are human. So, “let us imagine ourselves scientific Saturnians,” says Huxley (1863: 85), and the point will become obvious—as if that constituted some kind of scientific argument, because obviously, there are no scientists on Saturn, and we have only Huxley’s word on what they would think if there were. Some decades later, Osborn (1926: 3), the leading American authority on paleontology, used the same argument to a different end: “If an unbiased zoologist were to descend upon the earth from Mars and study the races of man with the same impartiality as the races of fishes, birds, and mammals, he would undoubtedly divide the existing races of man into several genera and into a very large number of species and subspecies.” And Jared Diamond (1992: 2) would invoke a more generic “zoologist from Outer Space” to validate his assertion that the human species constitutes a “third chimpanzee.”

The contribution of anthropology, rather, is to acknowledge the impossibility of studying humans as if we were not ourselves human (Washburn, 1978) and to reconceptualize the project as necessarily a biocultural one, infused with cultural values of greater or lesser transparency, but no less scientific for it. Or at least more scientific than pretending that you are a Martian.

For example, the important lesson for biological anthropology of the punctuated equilibria wars of the 1980s is not that it is one (punctuated equilibria) or the other (phyletic gradualism) or both, but that a significant amount of cultural input goes into interpreting the fossil record, most significantly in the dialectical relationship between continuity and discontinuity (Eldredge and Tattersall, 1982). The fossil record comes to us in sites and types and samples, and we impose meaning upon it: most fundamentally, taxonomic meaning, but (concurrently) processual and phylogenetic meaning as well. A fossil assemblage interpreted as one diverse species is understood to have been produced through somewhat different means than the same assemblage divided into six less diverse species. At very least, the magnitude of gene flow would be considerably greater in the former case than in the latter case—by virtue of which the metaphor of the tree to describe the relationship among the populations would be less appropriate than an alternative metaphor, such as a trellis, capillary system, or rhizome (Hulse, 1962; Wolpoff and Caspari, 2000; Arnold, 2009).

Nor are lumping and splitting capricious practices. The taxonomic diversity of the human fossil record is contested precisely because it cannot be established in the familiar, synchronic, intuitive fashion of systematics (which involves something about mating and gene pools and species recognition). After all, some component of paleoanthropological systematics is instrumental—there are social, interpersonal, and professional implications of any such practices, a “moral economy” of splitting and lumping. This is not tangential to the information nor is it added on to the information; it is fundamental to understanding the information itself.

If we cannot know just how many distinct evolutionary lineages there were among our ancestors, then what justification is there for pretending that we can, much less that we do? Overstating the case has never been good for science. Rather, we might consider the epistemological boundaries of biological anthropology—what we can and cannot know and what goes into “connecting the dots”—and define the field in terms of the unique kind of science that it is. The act of articulating and examining the basic assumptions that go into the production of knowledge is often called reflexivity (Woolgar, 1988) and is one of the hallmarks of contemporary anthropology. In this review, I will try to tease out some of the less obvious cultural aspects of the science of biological anthropology, building on reflexive studies in human variation (Goodman et al., 2003; Kö nig et al., 2008), primatology (Strum and Fedigan, 2000; Corbey, 2005), and paleontology (Landau, 1984; Stoczkowski, 2002). In the light of recent historical research, I will look at two epistemical or cultural assumptions of evolutionary anthropology: imposing continuity upon discontinuity and privileging ancestry over emergence.

WE LURCH BETWEEN A CRISIS OF MORALITY AND A CRISIS OF AUTHORITY

Recent Darwinian scholarship has established that part of the initial intellectual appeal of Darwinism was that it seemed to undercut the strongest aspect of the polygenist, proslavery argument of the mid-19th century: namely, that the earth and the human species were far more ancient than the Bible appeared to indicate. Where the polygenists reconciled this evidence to an anti-Bibli-
cal stance, the monogenists (and abolitionists) tended to root their belief in the essential unity of humankind on the authority of Genesis. Darwinism gave the monogenists and abolitionists a naturalistic grounding: all people are indeed of a single common stock, but the common ancestors are African apes of long ago, not Adam and Eve in Eden (Livingstone, 2008; Desmond and Moore, 2009).

Nevertheless, Haeckel (1868/1876) and all the first-generation Darwinians were faced with a problem as they tried to convince their reading public that it was genealogically connected to the apes: namely, the absence of a fossil record documenting that transition. There was an obvious solution to the problem, adopted for example by Huxley while debating Richard Owen about the brain of gorillas, namely that the brains of Africans fall in between those of Europeans and gorillas (Cosans, 2009). Huxley did not write very much about race, however; while Haeckel did, and very explicitly in the context of proving evolution by linking his European reading audience to the apes. Haeckel (1868/1876) theorized 12 species of living humans, at varying distances from the apes.4 He explained (vol 2, pp. 492–493):

If one must draw a sharp boundary between other primates and humans, it has to be drawn between the most highly developed and civilized man on the one hand, and the crudest savages on the other, and the latter have to be classed with the animals. This is, in fact, the opinion of many travelers, who have long watched the lowest human races in their native countries. Thus for example, a great English traveler, who lived for a considerable time on the West Coast of Africa, says: “I consider the negro to be a lower species of man, and cannot make up my mind to look upon him as a man and a brother, for the gorilla would then also have to be admitted in to the family.”

This casual racist talk, of course, is strategic. Haeckel cares more about the relationship of humans to apes than about the relationship of Europeans to Africans. That is the point I wish to highlight in the present context. To convince Europeans about evolution, Haeckel is quite willing to sacrifice the full humanity of the rest of the world.

Here is a question that as far as I know, nobody has ever asked before: Was it worth it? Was winning the rhetorical battle against the creationists so crucial that we could afford to sacrifice the non-white peoples of the world on its front lines, or was that cost too great, leaving us post-Darwinians with an original sin of racism at our birth?

Because if it is the latter, and it is true that—much as we might like to ignore it—our narratives of human evolution are invariably bound up with narratives of human variation (Woloff and Caspari, 1997; Jackson, 2001; Proctor, 2003; Derricourt, 2010), and one could reasonably argue that political and social inequalities are simply more important than whether we came from monkeys, then we are left with some baggage. That baggage is about scientific authority: Who has it, how you get it, and in particular, who explains the implications of human evolution to the public, whom we presumably want to embrace it, especially if our predecessors did not have such a good track record in the area of social politics.

After all, Haeckel might only be the tip of the iceberg. In some hands, evolution might not merely dehumanize large groups of people, but might actually rationalize their destruction. In an era of colonialism, an Oxford paleontologist explains, “It is not priority of occupation, but the power to utilize, which establishes a claim to the land. Hence it is a duty which every race owes to itself, and to the human family as well, to cultivate by every possible means its own strength,… [lest it incur] a penalty which Natural Selection, the stern but beneficent type of the organic world, will assuredly exact, and that speedily, to the full” (Sollas, 1911: 521). It sounds almost as if he is saying that evolution tells us to kill the native peoples of the world and take their stuff, which does not sound nice at all, a century later.5 But the source of the thought—from a high-ranking specialist—gave it authority.

Or from the 1916 best-seller, the Passing of the Great Race by Madison Grant:

A rigid system of selection through the elimination of those who are weak or unfit—in other words, social failures, would enable us to get rid of the undesirables who crowd our jails, hospitals, and insane asylums. [Sterilization].… can be applied to all the widening circle of social disorders, be it with the criminal, the diseased, and the insane, and extending gradually to types which may be called weaklings rather than defectives, and perhaps ultimately to worthless race types (p. 47).

The book, though, was not a work of “pseudoscience.” It was endorsed by the leading human geneticist in America, Charles Davenport (a future president of the American Association of Physical Anthropologists), and came with a preface by the leading spokesman for evolution in America, Henry Fairfield Osborn. Far from being repudiated within the evolution community, Madison Grant spoke for much of it (Fig. 1).

When the second edition of this book was reviewed by a geneticist from MIT in Science, it was called not just a “scientific” work, but one “of solid merit” (Woods, 1918). The leading physical anthropologists Hrdlička and Hooton served underneath Grant on the Advisory Board of the American Eugenics Society in the 1920s, along with nearly every geneticist and evolutionary biologist of note in America. Indeed, if Grant had been willing to subsidize The Yearbook of Physical Anthropology, he would have sat on its founding editorial board.6 And after his scientific book was translated into German, Madison Grant was delighted to receive a fan letter from Adolf Hitler, who found it inspiring (Spiro, 2009).

4The German officers in World War I all knew their Haeckel and saw that particular geo-political struggle in fiercely Darwinian terms (Kellogg, 1917), a fact that ultimately helped propel William Jennings Bryan toward his public rejection of evolution (Numbers, 1992; Clark, 2008).

5When his effort to coax financial support for the AJPA from Madison Grant failed, Hrdlička solicited a nasty review of The Passing of the Great Race from Franz Boas (Hrdlička to Boas, May 6, 1918, Hrdlička Papers, National Anthropological Archives,Boas, who had reviewed the book critically for The New Republic, obliged with a short review that ended regretting “that a courteous preface by Prof. H. F. Osborn may convey the impression upon the minds of uninformed readers that the book has merit as a work of science” (Boas, 1918: 365). In the same issue, Hooton (1918: 365) wryly observed, “Only the Prussians and Madison Grant now believe that the Nordics are a race of supermen and archangels.” Nevertheless, Grant’s obituary in The New York Times (Anonymous, 1937) noted that the book sold over 16,000 copies domesticalty and was “a recognized book on anthropology.”

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9Quotations are drawn from the English translation supervised by Sir Ray Lankester. I thank a reviewer for noting that in the first German edition of 1868, Haeckel had nine species of humans. In the second German edition of 1870, and all subsequent editions, Haeckel had 12 species of humans, which is what the English translation presents.
Here is the problem that poses for modern biological
anthropologists, who are trying to teach human evolu-
tion to our publics. If these experts were right, if evolu-
tion really does mandate, or justify, genocidal programs,
as Sollas and Grant and their reviewers seemed to
think, then we are faced with a moral crisis. Genocide is
wrong, and given a choice between genocide and crea-
tionism, a reasonable person who cares about social jus-
tice ought to reject the ostensible biological imperative to
genocide. That is to say,
given a choice between genocide
and creationism, the correct answer is creationism.

If, on the other hand, we agree that evolution does not
mandate or imply genocide, and the experts were thor-
oughly misrepresenting Darwinian and post-Darwinian
theory when they said that it does, then we are faced with
a problem of authority. If the egghead professors a few
decades ago were completely wrong about the meaning of
evolution for modern life, then how can we ever be certain
that they know what they are talking about now?

CONTINUITY

One of the scientific leaders of the first post-Darwinian
generation was Rudolf Virchow, arguably the most im-
portant German biologist and anthropologist of the 19th
century. According to his 1902 obituary in Science, "no
one has done more to shape, guide and foster [modern
physical anthropology] than Rudolf Virchow" (Boas,
1902). Medical anthropologists recall him more fondly
than physical anthropologists, however. We remember
him for one thing, in paleoanthropology (and it's not for
chairing the congress that adopted a standardized orien-
tation of the human skull, still known as the Frankfurt
plane). It is for rejecting the fossil evidence for human
evolution, in the forms of Neandertal Man and Java
Man (e.g., Shipman, 2001). He was a creationist, and he
rejected human evolution; in fact, he ridiculed it.

Virchow's rejection of the fossil evidence for human
evolution was nuanced, however, and seeing him in a
dualistic framework that pits evolutionism transcen-
dently against creationism may not be adequate to
understand his views, for this was not merely the first
generation of Darwinism, but the first generation of an-
thropology as well. The question of the transmutation
of species was connected intimately to the meaning of
human diversity, that is, to say, to the politics of differ-
ence. Where the earliest German anthropologists sought
to establish a comparative human science based on the
idea that all people are fundamentally cognitively com-
parable (''the psychic unity of mankind''), the earliest
German Darwinists were aggressively dehumanizing
non-Europeans in order to connect themselves with the
apes (Zimmerman, 2001; Penny and Bunzl, 2003; Marks,
2010). If Haeckel was the primary and fairly authentic
German voice of Darwinism (Di Gregorio, 2005; Rich-
ards, 2008), then Darwinism was at odds with anthropol-
gy, for it undermined the basic assumptions that would
make ethnology possible, which Rudolf Virchow, Adolf
Bastian, and their like-minded colleagues were trying to
establish in Berlin (Köpping, 1983; Baehre, 2008).

This is again what I mean by a crisis of authority. The
first generation of German anthropologists, led by
Virchow and Bastian, was faced with a fundamental con-
tradiction between their own scientific program and the
Darwinian one promoted by Haeckel. So either you chal-
lenge the authority of the speaker to speak for Darwin-
ism or you reject the program of Darwinism. It really is
not much more complicated than that.

The psychic unity of mankind, of course, presupposes
that there is a single kind of people, a single human spe-
cies. We rarely think about it now, but that was a signifi-
cantly contested point in biology in second half of the
19th century. On the same side of that issue, the unity
of the human species, were Huxley and Virchow; but
there were powerful and reputable biologists lined up on
the other side, as it were, notably Paul Broca in Paris
and Louis Agassiz in Boston. This is also where Ha Eck-
el's views lay. In his zeal to emphasize the continuity of
human beings with the apes, despite the absence of fossil
evidence, Haeckel defined 12 species of living humans,
from the ape-like Papuan to the un-ape-like European (Fig. 2).

There was a fundamental disagreement over how anthropology was to be professionalized at the heart of the dispute between the German anthropologists and Darwinians. Not only does the end of Haeckel’s History of Creation (1868/1876: 367) somewhat immodestly see itself as fundamentally reforming biology, but it goes on to talk about how evolution will lead to “an important and fruitful reform of anthropology. From this new theory of man, there will be developed a new philosophy, not like most of the airy systems of metaphysical speculation hitherto prevalent, but one founded upon the solid ground of comparative zoology.” That solid ground eventually produced the worst anthropology our science has ever known (Weiss, 1987; Massin, 1996).

The question this raises, though, is why it was different in England, and here I am again going to draw on recent work in the Darwin industry, which centralizes contemporary anthropological questions. Haeckel (1868/1876) ridiculed the famous line, “Am I not a Man and a Brother?” (see above). Yet that medallion was struck by Darwin’s grandfather, Josiah Wedgwood. The Wedgewoods were ardent abolitionists and so were the Darwins. Slavery had been abolished by the British while Darwin was in the Galapagos, but, as noted earlier, the fundamental sameness of all peoples was still a debated question, in particular, for first-generation anthropology. With Biblical monogenesis on one side, and mounting scientific evidence for ancient, pre-Biblical ancestors on the other, Darwin gave the abolitionist position a firmer scientific grounding.

Because the political issues were different, the earliest cultural anthropologists in England actually had little trouble reconciling ethnology and Darwinism (Stocking, 1991; Kuper, 2008; Kuklick, 2011). To understand the issues in Victorian England, one begins with the Ethnological Society of London, founded in the 1840s as a bleeding-heart, aboriginal protection and antislavery scientific venue. In 1863, a number of their members stormed off to found the Anthropological Society of London, specifically rejecting the idea of monogenism. After

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7About a century later, Wilson’s classic Sociobiology (1975) would frame its central argument in comparable rhetorical terms.
about 8 years of rival anthropological societies, the nascent community turned to Thomas Huxley to oversee their reconciliation. Huxley was committed, as was Rudolf Virchow, to the unity of the human species, and as the last president of the Ethnological Society in 1871, he oversaw the merger of the two societies, adopting the name “anthropological,” but the monogenist tenets of the older “ethnologicals” (Cunningham, 1908).

To that first generation of anthropology, then, about 1870, in England, Darwinism put you on the political left as social reformers; but in Germany, Darwinism put you on the political right, biologically reifying human groups and dehumanizing much of our species. The point is, though, seeing this with the tunnel-vision of creationism versus evolutionism permits you to miss the more salient issues concerning the relationship of anthropology to evolution and of the relationship of the science of human ancestry to the science of human diversity. The German anthropologists rejected human evolution largely because of what it seemed to say about people and their program to establish a rigorous basis for the comparison of human groups. The psychic unity of mankind was more important to them than whether or not we came from monkeys. And given a choice between their own methodology and a speculative simian ancestry, they chose the psychic unity.

As Gould (2003) recognized but did not say in quite this way, privileging continuity over discontinuity is an epistemic, not an empirical, issue, because continuity itself is constructed. In particular, the first-generation German Darwinians managed to see continuity—with Africans intermediate between Europeans and apes—where in fact no continuity existed. Our evolutionary relationship to the apes could probably be more usefully seen as one in which continuity and discontinuity coexist in tension with one another; and whose cultural meanings suffice the data produced on their behalf. And that brings us to the other assumption, which is really another facet of this dialectic between continuity and discontinuity, namely, the relationship between ancestry and emergence.

**ANCESTORY**

In 1946, the leading textbook of physical anthropology, Earnest Hooton’s *Up from the Ape*, surveyed the relationships of the anthropoids, incorporating the serological research of various workers, especially Christian von Krogh of Munich, who found that chimpanzees seemed to be serologically more similar to humans than to orangutans. Hooton (1946: 45) told the student quite matter-of-factly, “The weak similarity of the orang to other species suggests a lengthy process of separate development for this animal and its early branching off from the stock of chimpanzees and man.”

This is noteworthy for three reasons. First, histories of molecular anthropology often locate the discovery of this fact in the early 1960s (e.g., Lewin, 1987), rather than being explicitly articulated in the leading introductory text of the preceding generation. Second, the serological facts did not imply to Hooton any need to reclassify humans, because humans were obviously different from apes. And third, when the fact was rediscovered in the 1960s, it was explicitly linked to an argument for reclassification (Somer, 2008; Suárez-Díaz and Anaya-Muñoz, 2008; Hagen, 2010).

To evolutionary scholars at mid-century, anyone who could not tell a human from an ape was simply an incompetent biologist (Huxley, 1955; Simpson, 1949, 1963, 1964). To Goodman (1963), however, the intimate genetic ancestry of human and ape implied that humans and apes were apes. This is once again, however, a very culturally loaded inference and bears examining.

To what extent are you reducible to your ancestry? If ape ancestry makes you an ape, does slave ancestry make you a slave? (As noted earlier, questions of human ancestry cannot be so readily divorced from questions of human diversity.)

If we acknowledge instead that identity (what you are) involves a constant tension between what you were (ancestry) and what you have become (emergence), then we can see more clearly the cultural premises underlying the polar positions. To the mid-century synthetic theorists, like Simpson, descendants can be different from ancestors—indeed, that was how they defined evolution, as Darwin’s “descent with modification.” To call us apes on the basis of our ancestry, then, would be effectively to redefine evolution as descent without modification, that is to say, as simply descent. What is interesting about evolution, on the other hand, is how we became not apes—that is, the very “modification” that the geneticists apparently wished to bury. To these mid-century “holistic” evolutionary scholars, humans are not apes; humans are ex-apes.

In fact, this cultural question—Are you just your ancestors?—had been at the center of biological disputes before. In a society governed by ancient hereditary aristocracies, in which one’s place in life is determined in large part by one’s ancestry, the relationship between you and your ancestors carries considerable cultural salience. Consider the argument in the late-1800s between the adherents of August Weismann’s “continuity of the germ-plasm” (in which your body is disconnected from your reproductive cells, which alone form the basis of the next generation, thus creating an unbroken cellular chain linking ancestors to descendants) and their antagonists, the neo-Lamarckians (who maintained that circumstances could indeed profoundly affect the lives of descendants). In every generation, the neo-Lamarckians appear to be routed, and yet they keep coming back. Why? Because changing circumstances do affect the lives of descendants profoundly, and you are not simply a reconstitution of your ancestors’ germ cells.

You are quite different from your ancestors and you lead a profoundly different life from theirs. But not for genetic reasons, of course—for reasons that are, for all intents and purposes, entirely cultural—historical. Furthermore, the number of equally contributing genetic ancestors increases exponentially with each retreating generation; ancestry is only a “line” culturally (Ingold, 2007). This ought to imply that genetics and life course

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9This may also be familiar to veterans of debates with creationists, who point to a “gap” in the human fossil record, and when confronted with a “transitional” fossil inhabiting the gap, subsequently point to the two gaps now on either side of it.

10Obviously, there are conceivable exceptions. If you have sickle-cell anemia, it is certainly possible that many of your ancestors did not have it, and, consequently, the difference between your life and theirs has a real genetic aspect. Even so, their lives and yours still differ profoundly in cultural ways.
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2005; Shurkin, 2008) and James Watson (Hunt-Grubbe, 2007) learned. But if you promote creationist ideologies, you are excommunicated and defined as outside the boundaries of science. You effectively cannot have a career in science as a creationist, but you can as a racist. Somehow that strikes me as wrong. It should be just as unacceptable in science to be a racist as it is to be a creationist.

Unfortunately, there is also a great deal of misunderstanding about creationists and a surprising dearth of contemporary ethnographic information on them (Marks, 2011). As noted earlier, some science deserves to be rejected—if nothing else, the history of our field shows that. Consequently, the problem with creationists is not that they reject science, but that they reject science that they should not be rejecting. Creationism is not an instantiation of a broad populist rejection of science, as hack cultural analyses sometimes have it. Creationism is the rejection of a specific bit of science, a science that today sometimes tethers itself to racism (Rushton, 1985; Watson, 2007) or atheism (Dawkins, 2006), and in the past has bound itself to worse things, like genocide (see above) and the widespread suppression of human rights. It was indeed the white supremacist eugenics, presented casually alongside evolution in Hunter’s Civic Biology—the textbook at the center of the Scopes Trial in 1925—that led Darrow (1925, 1926) to attack eugenics immediately after the trial, yet still before any American biologist would go on record against it.14 Darrow evolved in 1926, with only a slightly altered focus, from American biology’s greatest defender to its greatest basher. Interestingly, a few years earlier, Darrow’s infamous antag¬nisti in the Scopes Trial had publicly and appropriately doubted the sexist invocation of sexual selection, but from the creationist side of the fence: “Darwin explains that man’s mind became superior to woman’s because, among our brute ancestors, the males fought for the females and thus strengthened their minds. If he had lived until now, he would not have felt it necessary to make so ridiculous an explanation, because woman’s mind is not now believed to be inferior to man’s” (Bryan, 1922).

So, the issue should not be, how do we make everybody believe what they are told in the name of science? But rather, how do we make wise distinctions within the corpus of science to gauge what we should and should not make everybody believe? That is, to a large extent, the point Rudolf Virchow was making when he repudi¬ated Haeckel’s vision of the theory of descent from the apes. What actually ought to count as science, when the field is political and moral as well as biological? This is the question that has come up every generation and has never been satisfactorily resolved.

Obviously, I have not resolved it, but I hope that I have convinced you that a broad historical, anthropologi¬cal, “science-studies” approach to science—our own science—may offer useful insights into how we make our knowledge and how most effectively to communicate our knowledge to others.

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14Darrow’s attack on the eugenacists was published by H. L. Mencken in his literary magazine, The American Mercury. The following year, Mencken’s friend, and future AAPA President Raymond Pearl (1927) would publish his salvo against the eugenes movement—the first by an American biologist—in the same venue.
Ko¨ pping K. 1983. Adolf Bastian and the psychic unity of man-
Jackson JJ, Jr. 2001. ‘‘ In ways unacademical’’: the reception of
Huxley JS. 1955. Guest editorial: evolution, cultural and biologi-
Hunt-Grubbe C. 2007. The elementary DNA of Dr. Watson. The
Hooton EA. 1946. Up from the ape, 2nd ed. New York: Macmil-
Holtzman NA. 1999. Are genetic tests adequately regulated?
Hagen JB. 2010. Waiting for sequences: Morris Goodman, im-
Kuklick H. 2011. The theory of evolution and cultural anthro-
Marks J. 2010. Why were the first anthropologists creationists? Evolut Anthropol 19:222–226.
Massin B. 1996. From Virchow to Fischer: physical anthropology and “modern race theories” in Wilhelmine Germany. In: Stocking G, editor. Volkgeist as method and ethic: essays on Bismarckian ethnography and the German anthropological tradi-


