

II

## Race, Ethnicity, Biology, Culture (1999)

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I

During recent decades, a number of prominent anthropologists have defended *eliminativism about race*, arguing that the notion of race, as applied to our own species, is of no biological significance.<sup>1</sup> One obvious motivation for discarding the concept of race is that it might provide the most effective way of undermining racism. Ironically, as I shall try to show later in this essay, important postracialist projects may require us to probe the connections between biology and race more deeply, to arrive at a clearer understanding of the concept of ethnicity, and to undertake empirical investigations of the connections between biological and social notions.<sup>2</sup>

However, whether or not eliminativism about race would achieve that goal, the first question concerns the truth of the thesis that races have no biological significance. Eliminativists have made two important points that should be recognized from the beginning. First, the phenotypic characters used to demarcate races—for example, the three “major races,” Caucasian, African, and Asian—neither have any intrinsic significance nor have been shown to correlate with characteristics of intrinsic significance. Second, although generic and phenotypic studies have shown that certain alleles, dispositions to disease, and phenotypes occur at different frequencies in different racial groups, intraracial diversity is far more pronounced than interracial diversity. This latter point remains unchallenged. Painstaking research on human phenotypic variation has disclosed that, even with respect to the most evident marker of racial difference, skin color, there are profound differences within races.<sup>3</sup> Moreover, the growing mass of data on human genetic variation down to the minutest details of DNA sequence makes it plain that so-called races differ only in the frequencies with which various alleles are found, often in complicated and bewildering ways.<sup>4</sup> Jared Diamond<sup>5</sup> has made the point vivid by considering the ways in which various choices of genetic characteristics would subvert our standard racial classifications.

But if the facts of intraracial diversity are widely accepted, the idea that there are no correlations between familiar phenotypic differences and more significant traits remains controversial. Users of the notion of race have often maintained that the physical traits used to demarcate the different races are correlated with “mental”

and “temperamental” differences. Nobody has been more forthright than the American champion of Mendelism, the early eugenicist Charles B. Davenport, who gave stark expression to the principal ideas in an essay, “The Mingling of Races.”

Not only physical traits, like eye color, skin color, body build and such characters as stature, color and form of the hair, proportions of facial features and many others are inherited in race-crosses but also mental traits. This is a matter which is often denied, but the application of methods of mental measuring seem to have produced indubitable proof that the general intelligence and specific mental capacities have a basis and vary in the different races of mankind. Thus it has been shown, by standard mental tests, that the negro adolescent gained lower scores than white adolescents and this when the test is made quite independent of special training or language differences and also when the children tested have a similar amount of schooling.<sup>6</sup>

What goes for brains goes for character. Davenport explained:

Common observation shows that the emotional output of different peoples is very different. We note that the North American Indian is little given to emotional expression. On the other hand, the African negro expresses his emotions copiously. In Europe the Scotch Highlanders are characterized by a prevailingly somber tendency, while the South Italians are characterized by lightness of spirit.<sup>7</sup>

But there are even differences in instinct. Davenport continued:

It is well known that most of the races of Europe are fairly stable and domestic, engaged in agriculture or industry. However, from eastern Europe and western Asia have come forth races of mankind with a strong tendency to wander over the face of the earth. Such are the Gypsies which have run through Europe and America and such are some nomadic peoples who are scattered across the face of Asia and Northern Africa and who even before the time of Livingstone had penetrated into the heart of Equatorial Africa. Now the instinct to wander, or nomadism, is one that has an hereditary basis. This has been worked out in some detail by the author and the results of his investigation have, so far, not been disproved.<sup>8</sup>

*Plus ça change.* Sixty years after these passages were written, we find contemporary authors adverting to the same themes as if the critiques of intermediate decades did not exist. Robert Herrnstein and Charles Murray confidently assert that IQ tests are free of cultural bias and that the 15-point gap between the means of Caucasians and African Americans points to genetic differences; J. Philippe Rushton suggests that the major races have different reproductive strategies that reflect temperamental differences.<sup>9</sup> True, Davenport’s marvelously looney idea about genes for nomadism seems to have vanished, but it is remarkable how many of his claims are resurrected, more apologetically, by those who feel that the world should know the true facts about racial differences.

This is not the place to engage in a full critique of the recent revivals of Davenportism. Suffice it to say that many of the old charges have not been satisfactorily answered. Herrnstein and Murray make crucial assumptions in arriving at estimates of heritability, and they put the notion of heritability to work in ways that have been attacked as inappropriate for over two decades.<sup>10</sup> What we need to know

about the genetic basis of intelligence are the shapes of the relevant norms of reaction,<sup>11</sup> and heritability estimates, even if correct, cannot enlighten us about these. Moreover, if we make some concessions, for the sake of argument, about the significance of IQ measures, there are interesting facts from the history of intelligence testing that point toward a quite different moral. One of the most noteworthy features of the data on which Davenport relied (the Army data from World War I) is the demonstration of a correlation between performance on the tests and quality of schooling (reflected in the differences between those educated in Northern and Southern schools).<sup>12</sup> Two groups once stigmatized for their "low" intelligence, the Jews and the Irish, currently perform better than members of other Caucasian groups. At the same time, data from Northern Ireland show that the mean score among Catholics is about 15 points below that of Protestants.<sup>13</sup> It is tempting to think that if differences in scores show anything at all, they reveal that people belonging to a group that is socially and economically disadvantaged often do significantly worse than the more fortunate members of the population. Rushton's work is equally insensitive to well-known criticisms. Since the mid-1980s, many scholars interested in the evolution of human behavior have learned to moderate their claims to avoid the excesses of what I have called "pop sociobiology."<sup>14</sup> Rushton writes as though there were no need for caution, investing anatomical and physiological differences with immense significance by spinning evolutionary scenarios that consistently ignore the possibility of alternative, more mundane, explanations.

So I begin from the position that the phenotypic characters used to pick out races neither have intrinsic significance nor are correlated with characteristics that are significant, and that intraracial variation is far greater than interracial variation. Does this mean that eliminativism is correct? I shall argue that it does not, and that, however admirably motivated, eliminativist approaches have failed to recognize more subtle ways in which divisions into races *might* have biological significance.<sup>15</sup> Further, in the light of this argument, I shall explore some of the ways in which concepts of race figure in social discussions, indicating questions that would have to be resolved if the practice of discarding racial divisions were to lead to desirable conclusions. We should all be worried by the thought that retaining concepts of race will foster racism—but my goal is to show that these should not be our only concerns.

## II

It is helpful to begin an exploration of the biological significance of the concept of race by contrasting the uses that biologists make of this notion (and related notions) and those that figure in our social interactions. To fix ideas about the biological uses, we can turn to any of a number of standard examples that have been treated in contemporary neo-Darwinism. Dobzhansky's classic discussion<sup>16</sup> introduces three major illustrations: variant color patterns in the Asiatic beetle *Harmonia axyridis*, chromosomal races in *Drosophila pseudoobscura*, and shell coloring and patterning in the snail *Cepaea nemoralis*. Each of these instances involves a species with internal differentiation of groups. In the first and third examples, the groups

are marked by readily identifiable phenotypic differences; in the second, the differences are solely at the chromosomal level. Underlying the phenotypic differences are differences in genes, while the chromosomal differences rest on heritable variations in the arrangement of genes. So, in all instances, the differences among members of the same species are heritable.

According to the neo-Darwinian synthesis, a species consists of a cluster of populations reproductively compatible with one another but reproductively isolated from other populations.<sup>17</sup> The notion of reproductive isolation, often misunderstood, rests on the idea that some organisms have a dispositional property: were they to be in the same place at the same time, they would not normally mate with one another. I shall explore the nuances of this complex idea shortly. First, however, let us note that the various groups of beetles, flies, and snails are not reproductively isolated from their conspecifics. Despite the heritable differences among the groups, they remain reproductively compatible. However, the genetic differences among the groups persist from generation to generation, so there are factors that prevent genetic homogenization. In some cases, there are selective pressures that tell against intergroup hybrids, in others geographical isolation. But whether the blurring of genetic differences is blocked by natural selection or by physical separation, the different groups appear to be taking the first steps toward speciation. They are "*species in statu nascendi*."<sup>18</sup>

There are three features of these examples that will be important in understanding a possible biological basis for racial concepts: the presence of phenotypic differences, the heritability of these differences, and the incipient reproductive isolation. All three deserve scrutiny, and will prove more problematic than might initially appear. First, however, it is worth contrasting, the biologist's demarcation of races with contexts in which the concept of race is employed in social discourse.

Some talk of race is overtly racist, and examples are too familiar to warrant recalling them explicitly. Yet there are other usages that might seem more benign, cases in which the concept of race fulfills a function in raising important problems. Consider discussions of the desirability of transracial adoption. In a society in which there is a practice of characterizing a majority race and a minority race, the adoption of a minority child by two majority parents might be opposed on the grounds that the child will be deprived of important parts of her racial identity.<sup>19</sup> The opposition recognizes, quite correctly, that in our species, genetic inheritance is one mode of transmission across the generations, accompanied by a different system in which items of culture are passed on. A particular style of cultural inheritance or, perhaps, a cluster of styles, regularly accompanies certain biological features; indeed, the division of the society into races on biological grounds maps onto a division into ethnic groups, ethnicities, marked out by alternative systems of cultural transmission. Because races are relatively broad categories, the mapping is hardly one-to-one.<sup>20</sup> Instead, the picture is of a cluster of related ethnicities, each more closely related to one another than with elements in the cluster associated with a different race. The picture reveals that at the basis of the opposition is the idea that the child will have an ethnicity that is at odds with her race. I shall later want to look at the notion of ethnicity introduced informally here, and at the assumption that it is desirable for ethnicity and race to be in harmony with one another.

For the moment, however, I simply want to place at the center of discussion the four elements whose interconnections I intend to explore: race, ethnicity, biology, culture. I want to review the ways in which a concept of race might be developed compatible with our present biological understanding, to explore the consequences of replacing the apparently biological concept of race with a social notion of ethnicity, and to ask if the social concept can play the role we intend for it without some biological notion lurking in the background. My strategy will be the inverse of one that is common in discussions of race. Rather than starting with our current conceptions of race, with all the baggage they carry, I want to ask how biologists employ the notion of race, and how we might regard our own species in similar fashion.<sup>21</sup> As I have already indicated, I believe that debates about the appropriate character of a postracialist society will be more sharply focused if we have information about the empirical issues which my probing of the notions of race and ethnicity will bring to the fore, specifically questions about the relationships between patterns of biological transmission and patterns of cultural transmission. It is also worth remarking, at the outset, that the notion of race I shall employ is minimalist: its ideas about racial division are far more modest than those to which defenders of race typically allude, and as I have been at pains to argue in Section I, I concur in the eliminativist critique of the traditional views about the differences among races. Indeed, I am inclined to think that, if nothing corresponds to the notion of race I reconstruct, then eliminativists are quite right to maintain that no biological notion of race can be salvaged.

### III

So much by way of introduction. Let me now begin more slowly and more carefully. If we propose to divide the human species into races, we offer a set of subsets, not necessarily exhaustive, that constitute the *pure races*. "Pure" here is shorthand, and the usage of this term should carry no connotation of superiority. "Pure races" might just as well be called "completely inbred lineages" (except that the phrase is cumbersome), for that is what they will turn out to be.

A necessary condition on any concept of race is the following:

- (R1) A racial division consists of a set of subsets of the species *Homo sapiens*. These subsets are the pure races. Individuals who do not belong to any pure race are of mixed race.

Now, there are all sorts of ways of dividing our species up that would by no means count as racial divisions. Suppose we considered subsets that marked out people according to income distribution, running speed, or average levels of ingestion of caffeine. One obvious reason why this kind of division is a nonstarter as a partition into races is that the characteristics that would identify the pure races are not heritable. Ruling out such proposals is very easy: we can simply impose a requirement of reproductive closure.

- (R2) With respect to any racial division, the pure races are closed under reproduction. That is, the offspring of parents both of whom are of race R are also of race R.

Existing concepts of race honor (R2) but do not satisfy the converse principle

- (R3) With respect to any racial division, all ancestors of any member of a pure race belong to that race. The parents of an individual of race R are of race R.

Socially disadvantaged races consist of a pure core together with people any of whose ancestors belongs to that core. Madison Grant's chillingly racist pronouncement that one parent from an "inferior race" consigns the offspring to that race has become a cornerstone of American notions of race, and Naomi Zack has insightfully explored the consequences of this presupposition.<sup>22</sup>

Racial divisions need not embody the idea that "inferior" races expand by "tainting" their "superiors." It is possible to proceed symmetrically, honoring both (R2) and (R3), and counting offspring of parents from different pure races as being of mixed race.<sup>23</sup> However, even if both requirements are imposed, there are any number of divisions of *Homo sapiens* that do not constitute what we would intuitively think of as racial divisions. Consider, for example, division by eye color. If we were to partition people as blue-eyed or brown-eyed, this would fall afoul of reproductive closure—brown-eyed heterozygotes can have blue-eyed children—but this difficulty can easily be overcome. Let one pure race consist of people homozygous for the dominant (brown-eyed) allele, the other of people homozygous for the recessive (blue-eyed) allele; heterozygotes will be of mixed race. (R2) is now satisfied, for, disregarding mutation, mating between two people both homozygous for the same allele will only yield offspring also homozygous for that allele. However, we have not yet secured satisfaction of (R3). To assure that, it is necessary to prune the pure races, eliminating people who have any heterozygous ancestors. That can readily be achieved if we proceed recursively, identifying *founder populations* and the lineages to which they give rise.

Let us therefore fix a time in human prehistory, the *time of racial origination*. The set of human beings existing at this time will be divided by identifying the founder population of recessive homozygotes, the founder population of dominant homozygotes, and the residue (the heterozygotes). The first generation of the blue-eyed pure race is the founding population of recessive homozygotes; the  $n + 1$ st generation of the blue-eyed pure race consists of the offspring of matings between parents each of whom belongs to the  $n$ th generation of the blue-eyed pure race (or to some earlier generation). The pure races picked out in this way satisfy both (R2) and (R3), but "racial divisions" of this kind are of little significance. Part of the reason is surely that the overwhelming majority of the species would be counted as of mixed race, and many of these people would be both genetically and phenotypically identical (as far as eye color is concerned) to members of one of the pure races.

So while (R1)–(R3) pick out important features of the concepts of race which we employ, they are by no means sufficient to reveal what is distinctive about racial

divisions. Nevertheless, the construction that shows how to prune populations of homozygotes so as to satisfy (R3) is helpful, for it makes explicit the idea of a historical lineage within which inbreeding occurs. I take this to be essential to any biologically significant racial concept: instead of trying to draw racial divisions on the basis of traits of the contemporary population, it is necessary to consider patterns of descent. *The concept of race is a historical concept.*<sup>24</sup>

However, while a certain type of history is necessary for racial division, it is not sufficient. Whether or not we demand some special genetic feature in the founding population, it is possible to satisfy (R2) and (R3) by choosing a time of origination, splitting the temporal segment of the species at the time of origination into founding populations, and identifying the successor generation of a pure race as the offspring produced by matings between members of earlier generations of that race. We can pick times of origination as we please, gerrymandering founder populations as we fancy, but none of this will be of the slightest biological significance unless two further conditions are met: (1) the members of the pure races thus characterized have some distinctive phenotypic or genetic properties; (2) the residual mixed-race population is relatively small, at least during most of the generations between the time of origination and the present.

It is important to recognize, from the start, that the idea of a pure race is an idealization (and, once again, the notion of idealization should carry no connotations of special goodness). Just as meteorologists analyze the complexities of the weather by producing charts with lines marking "fronts," so it is possible to understand the messy facts of human reproduction and biological transmission by looking for approximations to historical lineages that are completely inbred. The descent of contemporary people might show any number of patterns. Our species might have been completely panmictic from a time in the distant past (*panmictic* populations are those in which each member of one sex has an equal probability of mating and reproducing with each member of the opposite sex). Or, at the other extreme, inbreeding might have been so tight that, for generations, brothers have only mated with sisters. The concept of a pure race that I have described will be a useful notion in charting human reproduction across the generations, if there are groups that persist for long periods during which they are *mostly* inbred. Such groups will contain a number of families, and, at any given time, most of the families in a group will be interbreeding with other families in the group, and, for each family in the group, most of its history will be one in which family members interbreed with other families in the group. This is the relevant sense in which the notion of a pure race might idealize (or approximate) actual mating patterns.

At this point it should be apparent how notions related to that of reproductive isolation enter the picture. For the residual mixed-race population to be small, interbreeding among the pure races has to be infrequent. Moreover, if this is the case, then the possibility of maintaining distinctive genetic properties for the pure races will be greatly enhanced.<sup>25</sup> Even if the initial differences between founder populations at the time of origination are small, if descendants of those populations face different selection pressures, and if they mate almost invariably with one another, it is possible that, after many generations, the pure races will have different distributions of genes and of allelic combinations.

At this point, we can begin to see how the racial concepts we actually employ might be generated.<sup>26</sup> Racial divisions start with the idea of a division of the species into founder populations (not necessarily contemporaneous), which generate pure races in the recursive way described. Through most subsequent generations, interbreeding between the pure races is low, initially, at least, because of geographical separation and limited dispersal. Thus we arrive at the idea that the phenotypic or genetic features taken to mark out particular races—skin color, physiognomy, distribution of blood types or of alleles conferring susceptibility to various diseases—gain their significance because lineages have differentiated in the absence of reproductive contact. But none of this would have the slightest importance, or interest, if geographical union produced a thoroughly panmictic population. The fact that lineages which have been geographically separated in the past have distinctive characteristics has no biological significance unless, when current populations in different lineages are brought together, there is an incipient form of reproductive isolation. If men and women with very different genealogies breed freely, then the separation of their ancestors is of no enduring biological significance.

The notion of reproductive isolation is frequently misunderstood. Clusters of populations are reproductively isolated from one another just in case, where populations in different clusters are in geographical contact, they interbreed only at low rates. The tendency in much nonspecialist thinking is to suppose that reproductive isolation requires the impossibility of mating under any conditions. But this is far too strong a demand: many species will interbreed when their natural environments are disrupted, as witnessed by the numerous instances of hybridization in captivity. Nor is it reasonable to demand that members of different species never mate in the wild. Naturalists know numerous instances of *hybrid zones*, regions within which two species meet and produce hybrids. In some cases, the hybrids are sterile, in others fertile; there are examples of hybrid species in frogs—and possibly even in chimpanzees.<sup>27</sup> What is crucial for preserving species distinctness is that the hybrid zones remain stable, so that genes from one species do not flow to the other. Stability of hybrid zones rests on the greater propensity of conspecifics to mate with one another than with a member of another species.

Hybrid zones typically occur at the edge of a species range. Here, members of the species seeking potential mates only encounter conspecifics at low density. If they are more likely to meet an organism from a closely related species, the lower propensity for mating with a member of the alien species may be overwhelmed by the greater frequency with which aliens appear. If we associate with each organism in a species a probability that that organism will mate with a conspecific, given that it mates at all, then that probability will vary from 1 (or a number infinitesimally close to 1) to a significantly lower number in those regions where conspecifics are rare.

Underlying this distribution of probabilities may be a species-wide propensity to favor conspecifics as mates. That propensity, in its turn, rests on the traits of the organisms that make them disinclined to interbreed, the so-called *isolating mechanisms*. Isolating mechanisms are of many types, ranging from incompatibility of genitalia, inability of sperm to fuse with ova, low survival probabilities for the embryo, through differences in time of activity or in microhabitat that keep the species

separated, to complex behavioral differences. Some species of *Drosophila*, for example, are kept apart through subtle differences in the ritual behavior that precedes normal mating: males who perform a slightly deviant sequence of movements are only accepted as mates *in extremis*. Caribbean species of the lizard genus *Anolis* occupy the same area, but are differentiated in terms of habitat: one species is primarily found in the crowns of trees, another on the trunks, yet another on the ground around the trunks.

So far I have characterized reproductive isolation in terms of differences in mating probabilities, focusing on the probability that an organism will mate with a conspecific, given that it mates at all. However, it is also possible that mating within the species has a more fine-grained structure, so that the probabilities of mating with conspecifics with distinct phenotypic traits are different. So, for example, the species may divide into a number of groups with characteristic phenotypes, such that the probability of any group member mating with a member of the same group, if it mates at all, is very high, while the probability of mating with a member of another group, if it mates at all, is correspondingly low. If this occurs when the groups are in geographical contact with one another, then we can think of the groups as reproductively isolated *to some degree*, with the degree varying with (a) the probability of within-group mating and (b) the extent of the geographical contact. In the extreme case, in which the groups are thoroughly and completely geographically mixed within the range of the species, so that organisms are just as likely to encounter members of alien groups as they are to meet members of their own group, and in which the probability of mating out falls to the level that is usual for species within the interior of their range (i.e., little more than 0), then the groups have become distinct species. But long before the extremes are reached, the differences between inbreeding and outbreeding rates may be sufficient to preserve the genetic differences that underlie the distinct phenotypes—or, at least, substantially to retard the erosion of those differences.

If there is a workable biological conception of race, then it must, I believe, honor (R1)–(R3), employ the historical construction in terms of founder populations and inbred lineages, and finally, demand that, when the races are brought together, the differences in intraracial and interracial mating probabilities be sufficiently large to sustain the distinctive traits that mark the races (which must, presumably, lie, at least in part, in terms of phenotypes, since organisms have no direct access to one another's genes). Now, it is evidently possible for groups with distinctive phenotypic traits that have been geographically separated for many generations to form a completely panmictic population when they are reunited—so that the intergroup mating probability is exactly the intragroup probability. If this should occur, and there are  $m$  pure races occurring at frequencies  $n_i$ , at the time of geographic union, then, after  $k$  generations, the frequency of the  $i$ th pure race would be expected to be  $n_i^k$ . The significance of this point is that, if we contemplate an initial situation with two races in frequencies 0.9 and 0.1, then, after 10 generations the expected frequency of the majority pure race would be around  $10^{-17}$ . If the distribution is less extreme, or if there are more races, pure races disappear even more rapidly.

#### IV

Let me now use the rather abstract and general approach I have been developing to consider the possible biological foundation for a division of our species into races. If my analysis is correct, then the core of any biological notion of race should be that phenotypic differences have been fashioned and sustained through the transmission of genes through lineages initiated by founding populations that were geographically separated, and that the distinct phenotypes are currently maintained when people from different races are brought together through the existence of incipient isolating mechanisms that have developed during the period of geographical separation. Part of this presupposition is probably correct. There surely were geographically separated populations that would serve as founder populations for making some racial divisions—although it is not clear to me that this can provide anything other than a coarse-grained division, picking out the “major races.”

In fact, the patterns of gene flow in the history of our species are complicated. Eliminativists insist on the connection of sub-Saharan African populations to northern African populations; these, in turn, to Middle-Eastern Arab populations, and so forth; much has been made of the flow of genes across central Europe. However, such linkages do not ensure that extreme populations are linked in ways that make them part of the same evolutionary unit at all levels. Studies of the history of marriage in southern England and in Italy testify to an amazing proximity of spouses, even comparatively recently.<sup>28</sup> It is not hard to show that if interbreeding is relatively tightly confined, then populations separated by large distances (at the opposite edges of a continent, say) are effectively independent with respect to the genetics of microevolutionary change. In effect, some populations—the Arabs of Mediterranean Egypt and the indigenous peoples of southern Africa, or Norwegians and Greeks—have not exchanged genes to any significant degree. The phenomenon is analogous to that of so-called ring species, illustrated in species of gulls around the north pole or snakes in Texas:<sup>29</sup> two species whose ranges join and which do not interbreed are connected by a chain of populations, each of which interbreeds with its neighbor. Just as biologists recognize two distinct species in such instances, so too they might view two populations that only interbreed to a very limited degree as constituting races, despite the fact that they occur at opposite ends of a transcontinental cline (a sequence of populations along which there is genetic variation in a particular direction, so that, while adjacent populations may be quite similar, differences in the extremes are quite pronounced).

So the first part of the presupposition—the commitment to a history of reproductive separation—strikes me as correct, at least for some ensembles of populations. In particular, the United States is currently home to many groups who represent the latest stages of lineages that have not exchanged genes for a very long time. What about the second part, the thesis that when the populations come together they still do not exchange genes at high frequency? Here, firm data are hard to find, and the picture that emerges from statistics and anecdotes is by no means uniform. Some groups, when reunited, interbreed more readily than do

TABLE 11.1 Black-white marriages in 1970

Race of husband	Race of wife	
	White	Black
White	99.7	0.7
Black	0.1	99.2

Source: U.S. Census, 1970.

others. However, if the incomplete studies I have managed to track down are reliable, they do show that rates of interbreeding between some groups are very low. In particular, some groups of people designated as "black" only mate infrequently with other groups designated as "white."

At this point it is worth being very explicit about what I am claiming. In reconstructing the notion of race, I have suggested that groups are racially separated if certain facts about reproduction obtain: this shows the *possibility* of a biological notion of race. Specifically, if the "blacks" and "whites" in a particular region at a particular time reproduce together at a relatively low rate, then we can say that there is an incipient racial division between those groups at that place and at that time; if the rate of interreproduction remains low across a period, then we can talk about two races in that region. Since I can only appeal to indications of relatively low rates of mating between American "blacks" and American "whites," not to firm data systematically collected over significant periods, I can only suggest, tentatively, that this division may answer to the notion I have reconstructed. I am, however, inclined to believe that this is likely to be one of the best (if not the best) examples of a racial division (although, here, as elsewhere, empirical research could prove me wrong).

Data on rates of interracial marriage are surprisingly hard to come by. I have not been able to obtain reliable recent figures. However, table 11.1, using data from the U.S. Census, shows the distribution for black-white marriages in 1970. Approval of interracial marriage apparently doubled between 1968 and 1978 (20 to 36 percent), although a recent poll (1994) has indicated that 20 percent of the American population still favor laws against miscegenation.<sup>30</sup>

Studies of other forms of intermarriage paint a different picture. It is reliably estimated that up to 50 percent of the marriages of Japanese people in the continental United States are with non-Japanese spouses (although by no means with non-Asian spouses<sup>31</sup>). The picture of interracial marriage in Hawaii is far more complex (see table 11.2).<sup>32</sup>

The "short version" of the recent survey of patterns of sexual behavior in the United States is very clear about the tendency to avoid interracial relationships.

Almost as forbidden [as homosexuality] is interracial dating. The pressure to choose someone of your own race can begin as soon as teenagers start to date, and often sustains patterns of overt racism.

That social pressure against interracial dating becomes greater the closer a couple comes to marrying.<sup>33</sup>

TABLE 11.2 Interracial marriage in Hawaii

Bride's ancestry	Groom's ancestry					
	Ca	Ha	Ch	Fi	Ja	Ot
Caucasian	517	230	36	86	79	52
Hawaiian and part-Hawaiian	177	515	20	121	94	72
Chinese	138	163	311	41	296	51
Filipino	114	159	26	584	69	48
Japanese	56	70	59	30	761	25
Other	201	18.5	.21	69	127	397

Interestingly, when the authors follow up these claims with several anecdotes about interracial couples who are cut off from their families and about the anger directed at people whose romantic friendships cross racial lines, the examples they choose all involve blacks and Caucasians.<sup>34</sup> The more technical version explores various preferences for kinds of similarities in sexual partners, suggesting that even casual relationships across racial lines occur at low rates.<sup>35</sup>

These sources clearly suggest that the second part of the presupposition for biologically significant racial divisions is partially satisfied. The United States consists of an ensemble of populations, some of which have been geographically separated before being brought into proximity with one another. Between some pairs of these populations, most notably between African Americans and Caucasians, the frequency of intermarriage is low, suggesting that these populations are behaving as separate units from an evolutionary and, perhaps, ecological standpoint. Emphatically, this does not mean that racial divisions can be drawn across the entire species, that the divisions into inbred populations that hold locally necessarily apply globally; my minimalist notion of race allows for the possibility that, within one geographic locale (say the United States, or even something narrower like the rural Midwest), two groups are racially divided, even though elsewhere they are not. The possibility of racial division that I am suggesting is specific to a broader group, an ensemble of populations that are present in a particular geographical region. Nor, even locally, need it honor all the traditional racial divisions. Although the evidence does appear to indicate a significant mating barrier between whites and blacks, the statistics about intermarriage between European Americans and Asian Americans (from at least some national backgrounds) tells a quite different story.

But why make such a fuss about intermarriage (or interbreeding)? If one grants, as I have done, that the phenotypic differences between groups are not significant and that intragroup variation swamps intergroup variation, why not let the race concept go? To answer these questions, it is helpful to adopt a conceit proposed by E. O. Wilson and recently taken up by Rushton.<sup>36</sup> Imagine a Martian naturalist visiting earth for the first time and observing our species. What infraspecific divisions, if any, would the Martian draw? Rushton announces confidently that they would spot three geographical "races" with quite different body types. But simply noticing the phenotypic variation in height, bone thickness, skin color, or whatever should not inspire the Martians to divide our species into races—Rushton's

Martians (and probably Rushton himself) make a mistake against which Ernst Mayr has inveighed for so long that it has become part of the standard equipment of any field naturalist concerned to identify the species in a particular area. Only the uninformed rush in and divide sexually reproducing organisms according to the differences that strike them, the outsiders, as salient. To repeat what is, perhaps, obvious: the notion of race I have been developing is not morphological, concerned with such features as skin color or physiognomy, but focused on patterns of reproduction; morphology plays a role only if morphological differences prove relevant to reproductive choices. In this, I am as much at odds with Rushton and others who deploy traditional notions of race as are the eliminativists who deny the biological significance of race entirely.

Taxonomic divisions should be grounded in distinctions that the organisms themselves make, in the propensities for mating and reproduction. Mayr named his conception of species "biological," both because it was founded on something of central importance to biology, the reproduction of organisms, and because patterns of reproduction reflect characteristics that matter to the organisms. So, a Mayrian Martian, looking at our species, would attend, above all, to the facets of our reproductive behavior, noting not simply the phenotypic differences but seeing that in some locales, like the United States, those phenotypic differences correlate quite strikingly with mating patterns. To return from our fantasy and state the moral more soberly, intermarriage statistics are crucial because those statistics (poor though they are) are proxies for what is biologically crucial in making taxonomic divisions.<sup>37</sup>

At this point it is important to confront an important objection. Many eliminativists have responded to the idea of articulating concepts of race along the lines I have proposed by suggesting that there are not significant intraspecific differences in gene flow, so that, despite the partial evidence from the incomplete statistics I have quoted, the presupposition for biologically important racial divisions is not satisfied. Two kinds of considerations prompt this line of response: (1) the familiar judgment that contemporary American "blacks" have some Caucasian ancestry, and, conversely, that many American "whites" have some African ancestry;<sup>38</sup> (2) the suggestion that, if there are indeed large differences in frequency between intraracial and interracial mating, this is a temporary phenomenon that is unlikely to produce biological effects.<sup>39</sup> I shall take up each point in turn.

In rough outline, what we know of the history of sexual relations in America between people of European descent and people of African descent suggests that there have been two main periods during which such relations were relatively common. First, in the early colonies, particularly in Virginia, indentured servants from Europe and Africans (either slaves or servants) flouted the strictures against sexual liaisons. Later, in the plantation South, there is no doubt that white men from slaveholding families often treated female slaves as sexual property. Since the offspring of these unions were counted as "black" (under the notorious "one-drop" rule), many "blacks" had one parent of European descent. The sexual relations between these "blacks" and others, some of whom also had European ancestors, spread genes from the "white" population into the "black" population. In similar fashion, those blacks with enough "European" features to pass as "white" sometimes

married people of purely European ancestry, so that the genetic mixing went in both directions.<sup>40</sup>

If we now attempt to apply the concept of race I have developed to this history, there are two options: we can take the races to be ancient, setting the time of origination during the period of geographical separation, or we can suppose that the process of race formation begins at the time of Reconstruction. The first alternative appears to be blocked by the existence of two periods of substantial gene flow, and I think that it is the recognition of this fact that motivates sophisticated versions of eliminativism. In fact, however, matters are not so simple. For, in the first place, nobody has proposed that the probability that children born to people of African descent resulted from a union with a person of European descent was ever close to the probability that such children would result from a union with a person of African descent: neither the relations between indentured servants and Africans nor the exploitation of black women by white slaveowners ever came close to attaining the frequency of within-group unions. Second, from a purely biological point of view, it would be natural to redescribe the history by identifying two periods during which the proximity of people from two groups produced hybrid descendants, with the majority of these hybrids being assigned to one of the groups.<sup>41</sup> After these two periods were over, groups with somewhat modified gene pools (more extensively modified in the case of the blacks, only slightly modified in the case of the whites) once again engaged in cross-group unions, only at low rates. Even though the history does not strictly correspond to the requirements I have laid down for racial divisions, we might see it as an approximation to the idealized notion of separated, predominantly inbred lineages, disturbed only by two anomalous episodes in which the races are reshaped. From that perspective, the second episode, with its exploitation of black women, would not be viewed as the benign breaking down of interracial barriers, but as the coercive restructuring of the minority race.<sup>42</sup>

The second alternative would be to abandon the idea that the races are old and emphasize the low rates of interracial union during the past century.<sup>43</sup> This, of course, would be to invite the charge that such barriers are only temporary and thus of no significance for understanding human genetics and evolution. In response, it is worth noting two points. First, in introducing the biological species concept, Mayr insisted on a "nondimensional" version: populations at a given place at a given time belong to different species if they are not exchanging genes. In exactly parallel fashion, we could recognize "non-dimensional" races, groups at a particular place at a particular time that are not exchanging genes at substantial rates.<sup>44</sup> Second, and more important, I see no reason to conclude from the history that there has ever been a time at which people of African descent and people of European descent, with ample opportunities for mate choice, freely chose members of the other group at rates close to those with which they selected members of their own group. (I emphatically do not rejoice in this idea, but it does seem to represent our species' sexual past.) If that is so, then the incidents during which intergroup unions have been relatively common are the anomalies, and we should not think that the current low rates are a temporary phenomenon that will lack biological implications.

I conclude, tentatively, that we can use the concept of race I have articulated to identify at least some divisions among contemporary Americans. This conclusion

is tentative because further information about the history and current state of sexual unions in the American population (most pertinently those unions that produce children) might reveal a much greater rate of mixing than my account could allow.<sup>45</sup>

At this stage, there are a number of obvious questions both about the details of the approach I have adopted and about the division of our species into races. In the interests of making the position as clear as possible, it seems worth offering brief replies.

1. *Does this minimalist notion of race restore the status quo by yielding traditional racial divisions?* Although the evidence on patterns of reproduction is highly incomplete, it seems very likely that the view that there are three major races (Caucasian, African, Asian) will survive, if at all, only in highly qualified form. The statistics I have cited indicate that it is possible that there should be a division between Africans and Caucasians within the United States (although this might not hold elsewhere in the world), and that it is unlikely that there will be a division between Asians and Caucasians that will hold across the United States (although there might be more local divisions of this kind). I have given no grounds for even the most tentative opinion on the issue of whether there will be a division between Asians and Africans.

2. *How do divisions by race interact with divisions by social class?* There are two interesting issues about the interconnections of race and class. The first is whether the account I have given can always distinguish class divisions from racial divisions. In England immediately after the Norman conquest, for example, it seems possible that the population divided into two classes, an affluent class of landowners (often Norman) and a class of peasants (virtually all Saxon), and that these were reproductively disconnected. On the account I have given, these classes could be viewed as races, and we could describe the situation as one in which the English aristocracy was fashioned from the restructuring of a Norman population by the admixture of some (wealthy) Saxons. More generally, any situation in which there is limited intercourse (primarily sexual) among different classes could be viewed as one in which those classes function as different races (a judgment, interestingly enough, that members of the classes may express, albeit often with a different conception of race in mind). Interestingly, the institution of the *droit de seigneur* may have undermined any such racial division.

Second, just as a racial division may hold only in a particular locale, so too it may also obtain only within a particular social class. Consider the possibility that middle-class American "blacks" and "whites" are far more likely to reproduce together than are their working-class counterparts (a possibility that would invert the likely situation in the original colonies). Under these circumstances, there would be a class-relative racial division between Africans and Caucasians.

3. *Aren't the notions of reproductive disconnection and of the endurance of races both matters of degree?* Yes. I have talked, vaguely, of populations exchanging genes at relatively low rates and of divisions as enduring. Behind these vague remarks stand precise figures, as yet unknown, about the rates at which different groups interbreed over a number of generations. The same vagueness infects biological usage of subspecific (and even higher-order) taxonomic categories, and it is easy for there to be unclear cases. Surely, however, if we were to discover that the population

divided into As and Bs, that As interbred with Bs with probability .01, that Bs interbred with As with probability .03, and that these figures remained relatively stable (showing some fluctuations but never rising far above the values given) for a century and a half, then we could talk of a division into two races. Now, the actual data on patterns of reproduction may be nowhere near so dramatic, and we may end up by having to understand reproduction and biological descent by introducing explicitly degreed concepts. This could be done, for example, by measuring the *strength* of racial separation by the ratio of the probability of mating within to the probability of mating out, and by measuring the *endurance* of a racial division by the number of generations through which it persisted. Relations between groups could then be indexed by their endurance at or above a given strength: so we might discover that the African-Caucasian split relative to a geographic location (and perhaps to a class) had endured at a strength of 20 for six generations. Development of such degreed notions is straightforward, and I shall not pursue it here. It is sufficient to note that some of the questions about the relationship between biological and cultural transmission could be raised by employing such concepts.

4. *What is the relationship between my position and eliminativism?* Even though my approach and conclusions are at odds with eliminativism, I continue to share the fundamental points that eliminativists have made against older, typological, racial concepts: the characters that divide races (in my sense) are not significant, and the intraracial variation is greater than the interracial variation. What I deny is the eliminativists' insistence that racial divisions correspond to nothing in nature: I maintain that they correspond to patterns of mating, although I concede that empirical facts about such patterns could show that they are adequately charted only by using explicitly degreed concepts. However, even though I oppose the thesis that races are purely social constructions, there is a deeper sense in which I want to accept, and even to take further, this theme in eliminativism. When we look behind the patterns of mating at the underlying causes, we see just the kinds of factors that eliminativists emphasize. I shall explore this theme in the next section.

## V

Given that members of some pairs of groups do not engage in sexual relations at a very high rate, why does this occur? I can imagine all kinds of biological stories about our greater propensity for mating with members of our own race than for mating with members of different races. Perhaps our species has evolved "genes for xenophobia," and the statistics represent the impact of these genes. Maybe, we should take a cue from Patrick Bateson's beautiful experiments on mating preferences in Japanese quail, which show that the birds have a degree of attraction that is low for very close relatives, low for their most unrelated conspecifics, and that peaks at second cousins.<sup>46</sup> It is all too easy to lapse into pop sociobiology, either postulating genes and selective pressures to suit our fancy or extrapolating wildly from meticulous animal studies.

But there is, I believe, a much more obvious explanation of the differences in mating propensity. Isolating mechanisms may be very subtle, depending on the



nuances of an organism's responses to the behavior of others. *Drosophila*, recall, are very sensitive to the movements of potential mates. Furthermore, even when members of two species occur in the same region, they may be separated by differences in times of activity or in their microhabitats. Combining these points, it is not difficult to sketch an explanation of the reduced probability of mating between whites and blacks that accords with a host of familiar facts. Black people and white people may traverse the same terrain—the streets of the same city—every day without much significant contact. So long as whites and blacks live in different areas, work and pursue recreation in different places, geographical contact between the races is only superficial (recall the *Anolis* lizards of the Caribbean). Moreover, even when contact does occur, the people who meet may not provide one another with the right signals: from the tiniest gestures to ways of expressing ideas, expectations may easily be defeated.

In fact, a single dominant theme runs through the literature on the difficulties of interracial marriage. Successful relationships must surmount a barrier built up from local attitudes to the history of racial interactions. Oversimplifying enormously, that barrier is constructed in three stages. At the first stage is the history of colonialism, slavery, decades of injustice, and the perpetuation of economic and social inequalities in the present. This produces, at the second stage, attitudes of fear and resentment in families who see a relative contemplating an interracial marriage. The third stage consists in the recognition, by the protagonists, of the attitudes of their families, and their growing awareness that they may be cut off from those they love and that their children may grow up without any extended family whatsoever. Whether or not other forms of cultural signalling operate at earlier stages, so that people from different races are rarely initially drawn to one another, for those who find themselves attracted to members of different races, the barrier I have described is frequently acknowledged as the crucial obstacle to marriage. Interracial couples almost invariably mention this barrier and the ways in which they have overcome it.

The sources of the low rate of black-white mating lie ultimately, I suggest, in the history of slavery and colonialism, and, more proximally, in socioeconomic inequities. The *current* economic inequalities make significant contact between blacks and whites unlikely, and the past history of economic differences, with the social consequences of past exploitation and attempts at suppressing black culture, erect barriers that are hard to remove. The eliminativist emphasis on the role of social causes in the construction of race is thus not entirely misguided: at risk of solecism, we might say that races are *both* socially constructed and biologically real. Biological reality intrudes in the objective facts of patterns of reproduction, specifically in the greater propensity for mating with other “blacks” (or other “whites” respectively); the social construction lies in the fact that these propensities themselves have complex social causes.

To understand this apparently paradoxical view, we should recognize that there are three distinct views one might take about the biological significance of racial divisions. The two that have figured largely in twentieth-century debate are, on the one hand, that there are biologically significant divisions between races (e.g., between whites and blacks), and, on the other, that there are no such significant

divisions and that the concept of race is an illegitimate social construct that should be discarded. In my judgment, this opposition intertwines a number of separate issues. First, if there is, as I have claimed, significant difference between the probability of intraacial mating and the probability of interracial mating, then the phenotypic and genetic characteristics that distinguish racial groups can be sustained, and, at a microevolutionary level, races are behaving as separate evolutionary units. Thus, if the empirical facts are as I have taken them to be, eliminativism with respect to the concept of race, while an attractive position, cannot be upheld—although it might be noted that traditional racial divisions might be no more biologically significant than other divisions with the structure I have identified. However, while, in the case of other species, the development of incipient isolating mechanisms during a period of geographical isolation might be conceived as a purely biological phenomenon, resulting from the increase in frequency of alleles that dispose organisms not to mate with members of the other group, I see no grounds for any such explanation for the different mating propensities in races of *Homo sapiens*. Here, the account of the separation of (say) blacks from whites seems to be purely cultural, a matter of the patterns of behavior that have been transmitted across the generations through modes of *nongenetic* inheritance, as well as the accidents (many of them tragic and disastrous) of the relations among the two groups. Hence, while the concept of human races may have biological significance, in the sense that there are differences in gene frequencies which can be preserved because of low probabilities of interracial mating, the explanation of the mating preferences may have no biological significance. Races may *quite literally* be social constructs, in that our patterns of acculturation maintain the genetic distinctiveness of different racial groups.

I do not have any definitive refutation of the hardline sociobiologist who insists that our propensities for mating within racial groups are caused by our genes and not by differences in culture and history. There is no evidence in favor of any such view and, as I have noted, plenty of familiar phenomena that suggest the third option I have sketched. In the remainder of this essay, I want to explore the implications of that “mixed” approach to concepts of human race. I shall start with a closely connected notion, that of ethnicity.

## VI

The core of the view that there are ethnic groups is that distinct sets of cultural items, including lore, habits of interpersonal interaction, self-conceptions, and behavior, are transmitted across the generations by a process akin to biological inheritance. In recent years, careful studies of cultural transmission<sup>47</sup> have revealed both similarities and differences with the process in which genes are passed on. Plainly cultural inheritance can involve more than two “parents,” and some of the “parents” may even belong to the same biological generation as their “offspring.” Nonetheless, there are enough common features to enable us to pick out cultural lineages with the same formal structure previously discerned in races. Thus we can introduce a concept of *ethnicity* meeting the following conditions:

- (E1) An ethnic division consists in a division of *Homo sapiens* into nonoverlapping subsets. These subsets are the pure ethnicities. Individuals who do not belong to any of the subsets are of mixed ethnicity.
- (E2) Pure ethnicities are closed under cultural transmission. That is, the cultural "offspring" of "parents" all of whom are of ethnicity *E* are of ethnicity *E*.
- (E3) All cultural "ancestors" of any member of any pure ethnicity are of that ethnicity. If someone is of ethnicity *E*, then all their cultural "parents" are of ethnicity *E*.

However, if these conditions are to be realized in a world in which different cultures collide, it will be important to impose restrictions on cultural parentage. Liberal definitions of "parent" would allow anyone who transmitted any item to another person to count as a cultural parent—so that attendance in a classroom taught by someone of a different ethnic heritage would automatically disqualify a child from belonging to a pure ethnicity. I shall tolerate considerable vagueness in deciding how to resolve this problem, proposing that cultural "parents" be those who are responsible for the dominant items of the offspring's culture, where this should be taken to consist of those facets of lore, habits, conceptions, and behavior that are both central to the person's life and distinct from parallel items in the rival surrounding cultures. Roughly, the idea is that cultural parents transmit something that is important for the people they influence and play a role that could not have been filled by others from a different culture.

A second important modification that might be made is to recognize lines of cultural descent with respect to particular areas of human life: so we might focus on the transmission of religious beliefs and practices, musical tastes, food preferences, and so forth. Looking at the lines of descent generated in these various areas, we might discover that they were importantly different, that it was impossible to assign people to single "ethnicities," but that all of us belong to a variety of cultural lineages, some of which might match biological lineages while others were quite distinct. Alternatively, we might find that whatever field of human life we considered, the division into cultural lineages always produced the same divisions, in which case we would be justified in speaking about a single ethnicity to which a person belonged. We could then go on to ask the question of the relations between ethnicities so defined, and races.

Assuming that we obtained consistent lines of cultural transmission across different areas of human life, we could construct ethnicities by considering lines of cultural descent from founder populations, supposing, as before, that the  $n + 1$ st generation of the ethnicity consists of all those whose cultural parents belong either to the  $n$ th generation or are one another, and who have at least one cultural parent in the  $n$ th generation (these complications are needed to circumvent the problem of within generation cultural transmission). As in the case of races, if ethnicities are to be important they should be able to maintain themselves when they come into contact. So we should demand that genuine ethnicities have mechanisms of partial cultural isolation. Even in a multicultural society, the chief influences on new

generations should not be thoroughly mixed. This criterion might be formulated by demanding that only a small percentage of offspring have cultural parents from different ethnicities, or by requiring that for almost all offspring the set of cultural parents has a very large majority from a single ethnicity.

The main thought behind the approach I have taken to the concept of race is that the two systems typically harmonize—indeed, that they reinforce one another. On the biological level, interracial mating is limited through the differences in the cultural items acquired by members of different races, that is, because different ethnicities belong to different races. On the cultural level, patterns of culture are preserved because culture is usually primarily transmitted by parents and other family members (who may also influence the receptivity to other potential cultural parents), who belong to the same race and share the same ethnicity. One particular consequence that I have emphasized above is that past racism shapes the attitudes of people today, in particular their attitudes to sexual union, and that this can maintain patterns of mating that are skewed toward one's own group.

The picture I have been assuming allows for the possibility that each race might correspond to many different ethnicities, although it suggests that the transmission of culture through any of these ethnicities serves to lower the probability that someone will marry a person of a different race. One way to question this assumption (already noted above) is to break down the notion that ethnicities are holistic entities that come one to a person. Just as eliminativists about race argue for the appreciation of human diversity without supposing a discrete system of divisions, so it might be suggested that cultural transmission affects all of us in slightly different—or very different—ways, and that ethnic boundaries are blurred. Further, following my oversimplified analysis of the causes of propensities for not mating out, it might seem possible to detach the general feature of many systems of cultural transmission that creates the incipient barrier to interracial marriage from the more specific characteristics of ethnicities. To put the point concretely, perhaps a society-wide readjustment of economic and social relationships among black people and white people would undercut both the fears and the resentments, leading to a situation in which, while certain distinctive cultures (religious traditions, styles of music and of literature) were retained within lines of cultural descent, the barriers to interracial marriage were substantially weakened. If the family of the white fiancée of the young black man no longer worries that she will be plunged into poverty, and if black women no longer see the black man as a scarce resource in a world in which few black men come to manhood with auspicious prospects, then whether or not differences in other forms of culture (ranging from tastes in food through styles of socializing to appreciation of forms of art and entertainment) are lessened, the pressures against interracial marriage may be substantially released. Hence it would not be necessary that cultural transmission *as a whole* become more mixed, but simply that certain background elements that affect part of every system of cultural transmission be changed.

We currently know too little about exactly how to reconstruct ethnicities and how to apply the reconstruction to understand their bearing on people's decisions and actions (for example, on their decisions about whom to marry). In proposing a fairly abstract account of ethnicities, I presuppose a particular apparatus which

seems promising in coming to terms with systems of cultural transmission. It may turn out that this proposal fails at any number of levels: (1) the quasi-Mendelian formalism in terms of transmission of discrete items of culture is just inadequate to the phenomenon of cultural transmission; (2) when that formalism is applied it may reveal a parallel situation to that found in the case of conventional racial divisions, to wit that minority ethnicities are "mixed" whereas majority ethnicities are "pure"; (3) the mapping from ethnicity to race may not be many—one; and (4) detachable elements within the system of cultural transmission and/or common features which shape all such systems within the society (e.g., background economic and social inequalities) may play a dominant role in certain kinds of decisions and actions (e.g., decisions about marriage). All of these points need detailed exploration. Here I intend only to raise what I take to be important neglected questions about ethnicity and its connection with race, and to consider the consequence of *fallible* assumptions. Thus I do not wish to claim that it is plainly impossible to detach those features of cultural transmission that lower probabilities of interracial marriage from other parts of the system of cultural transmission.<sup>48</sup>

## VII

I now want to explore the connections between race and ethnicity in a bit more detail, by considering how biological races and ethnic identities might both break down.

Suppose, first, that cultural transmission were to become much more heterogeneous, so that children became influenced by the ideas, habits, and lore of what now count as many distinct ethnicities. If my conjecture about the mechanisms underlying the differences in probabilities of intraracial and interracial mating is correct, then the more multicultural society might exhibit an increased frequency of interracial mating. This increased frequency would, in its turn, be likely to generate an increase in the proportion of children of mixed ethnicity. Perhaps that mixture, in its turn, would continue to erode the (partial) isolating mechanisms among races. We can envisage a spiral toward a point at which the divisions by race and by ethnicity both disappear.

All this is speculative, and the interface between biology and culture is a region in which speculations should be taken with great caution. Nonetheless, I think it is worth considering the consequences of this speculation, asking, in particular, whether it points to a constraint on our future social practices.

I began by considering what I characterized as a relatively benign social use of the concept of race, envisaging serious discussion of the desirability of trans-racial adoption. One important question to ask is whether the issues can properly be framed in terms of ethnicities—is the significant question whether trans-ethnic adoption is desirable? At first sight, this appears to be quite wrong. The child's ethnicity is not already defined at birth (or at the early age at which she is adopted): her ethnicity will be identified through the cultural influences that impinge upon her, and there is no issue of *violating* an ethnic identity she already has. Supposing we assume that the cultural milieu into which she will be pitched through adop-

tion will be rich, whereas, if she is left where she is, she will have to struggle simply to survive, there would seem to be no reasons for opposing the adoption.

Now, there seem to me to be two important ways of undermining this argument, one that attends to the consequences at the level of the entire population (or species) and the other that makes explicit use of the concept of race. The most forceful way to express the first is to envisage a situation in which there are two ethnicities,  $E_1$  and  $E_2$ . Suppose that children born to parents of one of these ethnicities,  $E_1$  say, routinely experience various forms of deprivation, that they have little chance of benefitting from the richness of the culture, that, in many instances, biological parents simply lack resources to provide their children with access to significant parts of the culture, that with high frequency those children are simply left to rot. The alternative ethnicity,  $E_2$  by contrast, is well-endowed, and children reared by people in that ethnicity are assured physical well-being and security as well as a rich cultural milieu. Acting in the interests of the children, well-meaning social planners allow the adoption of a large proportion of children from the economically disadvantaged ethnicity, so that the cultural traditions of that ethnicity are weakened and finally disappear. They reason, quite understandably, that issues of survival may swamp considerations of cultural transmission,

Conservationists are properly concerned about the extinction of biological species. We should probably be even more worried by the thought that major cultural traditions might vanish: diversity enriches our lives. However, for each individual, it may be better if that individual belongs to the dominant ethnicity. Hence a social policy directed toward individuals may bring about a situation in which valuable cultural traditions are lost.

An obvious remedy, roughly realized in contemporary treatments of Native American ethnicities, is to "protect" cultural traditions that are in danger of disappearing either by enhancing the benefits of remaining within that ethnicity or, more likely, by offering to people of a particular racial group only limited opportunities for transferring to the dominant ethnicity. What I want to note is that, once again, the concept of race, and the ideal of harmony between race and ethnicity, figures here. The strategy of preserving a culture threatened with extinction is not implemented by proceeding in race-blind fashion, so that biological ancestry is irrelevant to who undertakes to continue the ethnic traditions. Genealogy is felt to make a difference: people should preserve "their" culture.

The second way of questioning transracial adoption makes explicit use of the concept of race, and tries to defend the principle that ethnicity and race should be in harmony. As I pointed out at the beginning, the phenotypic and genetic differences among racial groups for which we have any evidence are trivial. Nevertheless, those differences, particularly the differences in skin pigmentation and physiognomy, have come to be taken as markers that signal membership in distinct clusters of ethnicities. In societies which make the biological mistake of overestimating the significance of variations in trivial aspects of the phenotype, and the moral mistake of showing at least sporadic intolerance toward the ethnicities associated with certain biological markers, a person's manifest biological traits will make a difference to the way in which she is treated. Thus, even if she comes to think of herself as part of the dominant ethnic group, if she has the phenotype associated

with another ethnicity, it is likely that she will be treated, at least periodically, as if she were not a full member of the ethnic group with which she identifies. Nor will she have available to her the strategies for coping with the repudiation of the culture assigned to her which have been passed on in the ethnicity associated with her phenotype. So the simple argument for the harmony between race and ethnicity emphasizes the idea that the biological and moral mistakes of the past live on in the present, and that, in a society that has not completely freed itself from racism, mismatch between race and ethnicity will leave people rootless and defenseless.

This argument allows for the possibility of a future in which tolerance for alternative cultures is so widespread that insignificant phenotypic markers lose their significance in our social interactions. Harmony between race and ethnicity is valuable only because it serves instrumental purposes in societies with residues of racism. Yet it may well be thought that this does not uncover the deep motivation for insisting on the match. Other things being equal, we may feel that individuals should identify with the culture of their biological ancestors, that they should sympathize with the pains and struggles of great-great-grandparents whom they know only as dim figures in a shadowy past. Or, to put it more negatively, that failure to carry on the culture of one's genealogy is a kind of betrayal. I want to conclude by scrutinizing this idea.

On grounds of promoting cultural diversity, as I have remarked, it is important that some group of people should continue the lore and customs of each ethnicity—including the one of my biological ancestors. But why should it fall to me to continue those traditions? Why should I not pick and choose, identifying with bits and pieces of cultures that are quite alien to the practices of my forebears? After all, cultural inheritance, unlike biological inheritance, is multiparental, and it would be possible for each of us to make cultural linkages with all sorts of people and traditions, weaving their contributions together into idiosyncratic patterns.<sup>49</sup> We can envisage, and perhaps educational reformers are already envisaging, a multicultural society in which we are all ethnic hybrids. What exactly would that society have lost?

Moved by a biological analogy, we can appreciate the possibility that cultural mixing would quickly destroy the distinctive contributions of pure ethnicities, ultimately arriving at a state of relative cultural homogeneity. When populations that have been geographically, but not reproductively, isolated are brought together to form a thoroughly panmictic unit, the range of phenotypic variation may quite dramatically decrease. Setting on one side arguments from the intrinsic value of cultural diversity, there is a very different style of consideration that develops the thought that our biological ancestors should have a special role in our identification of who we are. Perhaps we have a natural tendency to identify with our biological parents, so that we take pleasure in developing a sense of values that accords with theirs and feel pain when we are at odds with their customs and ideals. A society which made a radical divorce between ethnicity and biological ancestry would thus rub against the grain of human nature.

Like most claims about the relationship between biology and culture, this seems to me to be pure speculation. It is possible that people are "hardwired" to feel this special cultural kinship with their biological ancestors. It is also possible

that our sense of identification with our biological forebears expresses a pattern of socialization common to all, or most, societies, a pattern that may itself be part of the legacy of racism and xenophobia. We simply don't know if ethnic roots have to be biological roots to make us happy.

Of course, the consequences of the two assumptions are quite different. If the propensity to identify with our biological parents would develop in us across the entire range of social environments that we might contrive (or, more exactly, the entire range in which people would flourish), then we can expect ethnicities to remain relatively pure, to be in harmony with divisions into races, and for the practices of dividing people by race and by ethnicity to reinforce one another in the fashion I suggested earlier. It would not inevitably follow that we were committed to a racist society, for the appreciation of difference might not be associated with the idea that distinct groups have distinct worth. Nevertheless, there are surely grounds for concern that, either because of cognitive or moral limitations, people would, in practice, think of their own culture not as one among many but as the best.

By contrast, if our descendants could fashion their own eclectic mixes of culture without violating any sense of identification with ancestors, then we can envisage a future in which the concepts of race and ethnicity both become irrelevant. Cultural hybridization could be so promiscuous that we would simply recognize the different cultural identities of all individuals, and, as I suggested earlier, it is likely that the breakdown of ethnicities would promote mating between people now identified as belonging to different races, thus undercutting what I have exposed as the biological significance of racial divisions. Perhaps in this imaginary society the inability to demarcate clear groups would promote greater tolerance or even a celebration of human diversity.

Something like this vision is what moves eliminativists. They worry that it is not enough to insist on the equality of races, and they propose that the most thorough way to combat racism is to discard the outworn concept of race. To this end, they contend that the concept of race lacks biological significance. I have been arguing that this is wrong, and that the interconnections between biological and cultural concepts are intricate. Those interconnections raise numerous empirical and moral questions that must be addressed if we are to decide if the vision of a society that abandons practices of racial division is either realizable or desirable.

#### Notes

I owe an enormous amount to many people who have helped me with this project. My colleagues Jim Moore and David Woodruff gave me excellent advice about issues in anthropology and evolutionary biology (they should not, of course, be blamed for my errors). The first version of this essay was written for a wonderful conference on concepts of race and racism, organized by Jorge Garcia at Rutgers University in the fall of 1994. The high standard of the discussion at that conference and the combination of incisiveness and open-mindedness among the people with whom I interacted were a vivid reminder of how productive philosophical exchange can be. I am grateful to Lorenzo Simpson for his extremely thoughtful comments which have helped me reshape much of my raw material. The com-

ments of David Goldberg, Leonard Harris, John Ladd, Howard McGary, Michele Moody-Adams, Lucius Outlaw, Ken Taylor, and Gregory Trianosky-Stilwell have also been valuable. I am particularly indebted to conversations with Anthony Appiah, Amy Gutmann, Michael Hardimon, and Naomi Zack. Finally, I would like to thank Michael Hardimon for some wonderfully constructive comments on the penultimate draft and Leonard Harris for his encouragement, as well as for his invitation to contribute this essay to *Racism* (Amherst, N.Y.: Prometheus, 1999), the book in which it originally appeared.

1. A. Montagu, *The Concept of Race* (New York: Free Press, 1964); F. B. Livingstone, "On the Nonexistence of Human Races," in A. Montagu, ed., *The Concept of Race* (New York: Free Press, 1962); J. Marks, "Patterns of Human Biodiversity," unpublished manuscript, 1994. For the perspective of an evolutionary biologist, see J. Diamond, "Race without Color," *Discover* 15 (1994): 82–89.

2. This should become clear in section 7. See, in particular, the remarks about Anthony Appiah's postracialist project in note 49.

3. See R. C. Lewontin, *Human Diversity* (San Francisco: Freeman, 1982), 115.

4. See S. Molnar, *Human Variation* (Englewood Cliffs, N.J.: Prentice Hall, 1992), and L. L. Cavalli-Sforza, *The History and Geography of Human Genes* (Princeton, N.J.: Princeton University Press, 1994).

5. Diamond, "Race without Color."

6. C. B. Davenport, "The Mingling of Races," in E. V. Cowdry, ed., *Human Biology and Racial Welfare* (College Park, Md.: McGrath, 1930), 557.

7. *Ibid.*, 558.

8. *Ibid.*, 558–559.

9. R. Herrnstein and C. Murray, *The Bell Curve* (New York: Free Press, 1994); J.-P. Rushton, *Race, Evolution, and Behavior* (New Brunswick, N.J.: Transaction Books, 1994).

10. See N. J. Block and G. Dworkin, "IQ, Heritability, and Inequality," *Philosophy and Public Affairs* 3 (1973): 331–409 and 4 (1974): 40–99; R. C. Lewontin, "The Analysis of Variance and the Analysis of Causes," reprinted in N. J. Block and G. Dworkin, eds., *The IQ Controversy* (New York: Pantheon, 1974), 179–193. The best diagnosis I have seen of the errors in Herrnstein and Murray's much-criticized work is offered by N. J. Block, "Review of *The Bell Curve* (Herrnstein and Murray, 1994)," *Cognition* 56 (1995): 99–128.

11. The norm of reaction of a trait is the function that, for given genotypes, maps constellations of environmental variables onto phenotype. It is most conveniently represented as a graph showing the variation of phenotype with environment. Fundamental points about the importance of norms of reaction are made in Lewontin, "The Analysis of Variance." I attempt to articulate those points and defend the notion of a norm of reaction against recent criticisms (including some from Lewontin himself) in Philip Kitcher, "Battling the Undead"; reprinted as chapter 13 in this volume.

12. See S. J. Gould, *The Mismeasure of Man* (New York: Norton, 1981).

13. See Block, "Review of *The Bell Curve*."

14. See Philip Kitcher, *Vaulting Ambition: Sociobiology and the Quest for Human Nature* (Cambridge, Mass.: MIT Press, 1985).

15. It is well to acknowledge, from the beginning, that the conceptual clarification I try to offer here should be viewed as a prelude to empirical investigations. Throughout the essay I shall appeal to the partial findings that are currently available. However, my main purpose is to pose precise questions whose answers ought to be employed in tackling the tricky moral and social issues that surround the notions of race and ethnicity.

16. T. Dobzhansky, *Genetics of the Evolutionary Process* (New York: Columbia University Press, 1970), 270ff.

17. See E. Mayr, *Systematics and the Origin of Species* (New York: Columbia University Press, 1942); Mayr, *Animal Species and Evolution* (Cambridge, Mass.: Harvard University Press, 1963); and many subsequent works by Mayr.

18. The phrase is Dobzhansky's.

19. Later in this essay (section 7) I shall indicate why I believe we need a biological notion to understand this example.

20. I shall elaborate this point at some length below, where I try to articulate the intuitive concept of ethnicity that is often employed in social discussions.

21. Caution is needed here. Many biologists are driven to avoid the notion of race because they are mindful of the harm that the concept has done in its application to *Homo sapiens*. Others are moved by the difficulties of any kind of intraspecific taxonomic category (lucidly pointed out in E. O. Wilson and W. I. Brown, "The Subspecies Concept and Its Taxonomic Application," *Systematic Zoology* 2 [1953]: 97–111). Yet, under many different names, the idea of intraspecific divisions lingers in ecological and evolutionary studies, where biologists recognize stocks, strains, breeds, evolutionarily stable units, geographical races, morphs, and so forth. Without commitment to the general applicability of an intraspecific category, it is possible to maintain that, with respect to particular species, a division of the species into biologically significant subunits is profitable. This kind of local pragmatism, which seems to me to permeate contemporary biological practice, provides the basis for my explorations here.

22. For the reference to Grant, see N. Zack, *Race and Mixed Race* (Philadelphia: Temple University Press, 1993).

23. The best argument for eliminativism is that if this requirement is honored, virtually the entire species will turn out to be of mixed race. I shall consider this argument in some detail below.

24. However, it is worth noting explicitly that the time of origination can be chosen to suit the purposes of the investigation, and there is no reason to think that this time must always be in the very distant past. As I shall point out below, the claim that racialization is now occurring in America might turn out to be defensible.

25. Or distinctive frequencies of particular alleles. Note that it does not matter whether or not the genetic (or phenotypic) differences are important or trivial. The concepts of race characterized here have no commitment to the racist doctrines repudiated in section 1 — just as Dobzhansky's use of a concept of race for nonhuman species made no claim that the variant characters maintained in the races of snails, flies, and beetles were particularly important.

26. Note that it is an empirical question whether the notion of race I am reconstructing will pick out any racial divisions at all, and, if it does, whether it will pick out (for example) the "big three." In the next section, I shall make some tentative claims about the racial divisions I think most likely.

27. For valuable discussions of hybrid zones, see M. J. Littlejohn and G. F. Watson, "Hybrid Zones and Homogamy in Australian Frogs," *Annual Review of Ecology and Systematics* 16 (1995): 85–112, and N. H. Barton and G. M. Hewitt, "Analysis of Hybrid Zones," *Annual Review of Ecology and Systematics* 16 (1985): 113–148.

28. J. K. Brierly, *A Natural History of Man* (Madison, N.J.: Fairleigh Dickinson University Press, 1970); L. L. Cavalli-Sforza, "Genetic Drift in an Italian Population," in *Readings from Scientific American: Biological Anthropology* (New York: Freeman, 1969).

29. E. Mayr, *Populations, Species, and Evolution* (Cambridge, Mass.: Harvard University Press, 1970).

30. Data from E. Porterfield, *Black and White Mixed Marriages* (Chicago: Nelson-Hall, 1984).

31. See J. N. Tinker, "Intermarriage and Assimilation in a Plural Society: Japanese-Americans in the United States," *Marriage and Family Review* 5 (1982): 61-74.
32. See M. M. Schwertfeger, "Interethnic Marriage and Divorce in Hawaii," *Marriage and Family Review* 5 (1982): 49-59.
33. R. T. Michael et al., *Sex in America* (Boston: Little, Brown, 1994), 57.
34. *Ibid.*, 58-59.
35. See E. O. Laumann et al., *The Social Organization of Sexuality* (Chicago: University of Chicago Press, 1994), 254-266; the data on the infrequency of Asian-Hispanic sexual relationships are particularly striking.
36. E. O. Wilson, *Sociobiology: The New Synthesis* (Cambridge, Mass.: Harvard University Press, 1975); Rushton, *Race, Evolution, and Behavior*.
37. For present purposes I ignore all kinds of complexities about how to draw species divisions. I have argued elsewhere for the need for a plurality of species concepts (see Kitcher, "Species," reprinted as chapter 5 in this volume), but my pluralism is quite compatible with recognizing the role that reproductive patterns play in making taxonomic divisions among sexually reproducing organisms. The approach of the text is also consistent both with Mayr's more negative approach ("look at which organisms *don't* interbreed") and the more recent attention paid to positive cues ("mate recognition systems").
38. For elaboration of this point, see Zack, *Race and Mixed Race*.
39. In conversation Naomi Zack has made a forceful case for (1), and, in the original discussion at Rutgers, Michele Moody-Adams independently gave a lucid presentation of the same point. A number of people referred me to a seminal essay by Adrian Piper ("Two Kinds of Discrimination," *Yale Journal of Criticism* [1993]: 25-74), in which she summarizes the biological and anthropological sources for (1) (see her footnote 27). In public and private exchanges at Rutgers, both Anthony Appiah and Amy Gutmann argued for (2). I am grateful to all these people for pressing the case so well.
40. For a lucid account of this story, see F. J. Davis, *Who Is Black?* (University Park: Pennsylvania State University Press, 1991).
41. It is worth noting that the first episode, the intergroup unions in Virginia, looks very like the standard situation for hybridization among nonhuman animals. Individuals at the limits of their ranges sometimes have little chance of mating with conspecifics, and mate with a member of a closely related species. We could regard the two populations of servants in the colonies as cut off from the main body of the groups from which they came, partly by geographical, partly by social causes.
42. It is, I think, peculiar that eliminativists, who are surely moved by repugnance at the horrible things that have been done in the name of racial purity, should think that the breakdown of the notion of race is due to the fact that Southern white men were often prepared to rape black women or bribe them into sexual unions.
43. See Davis, *Who Is Black?*, 71-72.
44. Starting with the nondimensional notion, we could then build up the full notion of race, which I have explicitly taken to be a historical notion, by considering intervals of times at each of which the groups under study count as nondimensional races. This procedure raises the obvious question: How long must the reproductive disconnection last for the lineages to count as separate races? I shall come to terms with this, and other questions that turn on the difficulties of degreed notions, at the end of this section.
45. A recent report in the *New York Times* (July 4, 1996) suggests that rates of interracial marriage, especially those involving black women and white men, are on the increase. But the report has two interesting aspects. First, this seems to be a trend among middle-class people (and, as I shall suggest below, economic and class factors loom large in the maintenance of racial divisions). Second, a hypothesis about the cause suggests that young educated

black women greatly outnumber young educated black men, so that their choices of mates are limited unless they accept white men as potential partners. If this is correct, then the situation would again be analogous to that of members of nonhuman populations at the limits of the species range.

It is also worth noting that there is a significant amount of black-Hispanic mating as well as a significant amount of Hispanic-white mating, so that Hispanics could serve as a "bridge" population between the two groups (this point was made in the discussion at Rutgers by Gregory Trianosky-Stilwett). Only in the light of much more extensive knowledge will we be able to discover if the resulting population structure is more like that of an effectively panmictic population or the case of "ring races."

46. P. P. G. Bateson, "Optimal Outbreeding and the Development of Sexual Preferences in Japanese Quail," *Zeitschrift für Tierpsychologie* 53 (1980): 231-244; Bateson, "Preferences for Cousins in Japanese Quail," *Nature* 295 (1982): 236-237.

47. L. L. Cavalli-Sforza and M. Feldman, *Cultural Transmission: A Quantitative Approach* (Princeton, N.J.: Princeton University Press, 1982); R. Boyd and P. Richardson, *Culture and the Evolutionary Process* (Chicago: University of Chicago Press, 1985).

48. It is worth noting that evidence for (4) might be derived from study of patterns of mating among indentured servants, both black and white, in pre-revolutionary Virginia. If the population of servants showed a far higher rate of interbreeding than is now found between African Americans and Caucasians, an obvious explanation would be that economic disparities and the history of injustice have played a major role in the dramatic lowering of the rate of intermarriage.

49. This prospect is defended with great eloquence by Anthony Appiah in his contribution to A. Appiah and Amy Gutmann, *Color Conscious* (Princeton, N.J.: Princeton University Press, 1996). Appiah uses eliminativism about race as a steppingstone to recommending a future in which the contributions of all cultures are available to everyone. In my judgment, the points for which he wants to argue can be clarified by probing the connections between race and ethnicity in ways I have begun here. Indeed, many of the issues that divide Appiah from his critics seem to me to require empirical exploration of issues posed in section 6: we need to know just how lines of biological descent and cultural descent interact with one another. Even if Appiah were to view my earlier reconstruction of the concept of race as mistaken, I think he would still have to confront questions about patterns of mating and biological inheritance and how these affect and are affected by cultural transmission, for precisely those questions are pertinent to the kinds of futures he imagines. Those who oppose his "liberal cosmopolitanism" often seem to be making different assumptions about the answers to those questions, and I think it important to identify the empirical issues and try to resolve them.