

## Does race matter?\*

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**ABSTRACT** This essay contends that behaviour can only be understood within an evolutionary framework that gives equal weight to genes and environment. Our cultural environment itself evolved, in part through natural selection of genes and in part through other mechanisms. Racism, however, involves association of genetically caused differences in physical appearance with characteristics to which they are wholly unrelated. Yet this association has a biological cause: fitness maximisation through nepotism. This association, therefore, has an effect upon the life chances and reproductive success of genetically different groups and, therefore, upon the process of human evolution.

The facile, accepted, politically correct answer to the question in my title for the last half century of social science has been: 'only if you think it does'. A clear distinction was drawn between the discredited notion of biological race in the sense of subspecies, and the concept of social race, in the sense of the time-, place- and culture-specific association of certain behavioural, moral and intellectual traits with physical phenotypes. Biological race was asserted to be of dubious objective validity since the human species was not clearly subspeciated, and of no relevance to social scientists since there was no clear relationship between biological and social definitions of race. This simple formulation long seemed to close the book on the subject.

Having ruled out biology as a possible explanation for any behavioural variation in humans, the etiology of race and racism thus relied almost exclusively on psychological, social-structural or cultural explanations. This is not the place for a review of the literature, but racism was variously attributed to personality traits aggravated by frustrating experiences, or to rationalisations for exploitation, slavery, colonialism and so on, or to peculiarities of certain cultural traditions.<sup>1</sup> Those 'explanations' were not so much wrong as incomplete, *ad hoc* and situation- or culture-specific. They were, in short, proximate descriptions of specific sequences of events in

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particular places and times, and they had little standing as general scientific explanations. The issue was further befuddled by the almost inevitable intrusion of a dense ideological and political fog into the arguments. Invective, self-censorship, moralism, indignation, bias and plain intellectual dishonesty frequently contaminated scholarly discourse, and indeed continue to do so. The ideological opprobrium which attaches to any serious consideration of the biological bases of human behaviour becomes especially virulent when the subject is race. The general revulsion of social scientists against racism leads them to avoid any consideration of human behavioural ecology for fear of political misuse of any knowledge gain. In short, when the subject is race, many social scientists are quite ready to espouse an obscurantist stance, and to be, in effect, social creationists about human behaviour.

In the last twenty years or so, an increasing body of findings makes it more and more difficult to accept the facile disassociation between the biological and the social.<sup>2</sup> Our behaviour, just as much as our anatomy, evolved by natural selection, and, therefore, can only be explained as the interaction of genotypes and environments to produce phenotypes. There *must* be a biological basis to behaviour as well as an environmental one, and the crux to understanding behaviour – human or non-human – lies in the unravelling of the complex interplay of genes and environment. This is no prescription for rigid ‘biological determinism’, a favourite red herring of social scientists, but it is an injunction to investigate linkages between biology and behaviour instead of dismissing the possibility of such linkages. Let me sequentially raise three questions: (1) Are there biological races in *Homo sapiens*? (2) Does the formation of *social* race have any *biological* underpinning? (3) If so, does this biological basis of social race formation explain the etiology of social race and racism in contemporary societies? To anticipate, my answer to these three questions will be respectively: no, yes and yes.

### **Are there biological races in *Homo sapiens*?**

All taxonomies of subspecies of *Homo sapiens* have failed to establish exhaustive and mutually exclusive genetic populations in our species. In that conventional sense, there are no biological races in *Homo sapiens*. What we *do* have, however, are large differences in the frequencies of certain alleles<sup>3</sup> in a great multiplicity of overlapping human groups yielding a wide range of genotypic as well as phenotypic variation on a number of traits, some behaviourally trivial, others not so.<sup>4</sup>

At least six important conclusions can be drawn from genetic heterozygosity<sup>5</sup> in humans:

(1) Genes that are polymorphic (i.e., which can have one of several alternative alleles on a given locus on a chromosome) often are present in

different proportions in different population groups, but they are independent of one another, and, therefore, different genes divide human populations along different lines. A frequency distribution map for the ABO blood types, for example, will not be consistent with one for genes that control skin pigmentation. Different gene clines<sup>6</sup> cut up populations along different lines.

(2) Polymorphic genes almost always define *relative*, not absolute differences between populations. The differences in proportions are often small, and, furthermore they often follow gradual geographical clines rather than abrupt changes. For example, as one goes from the Mediterranean to the Arctic Circle in Europe, the proportion of blue eyes tends to increase, but there is no geographical line at which brown eyes stop and blue eyes begin.

(3) Both phenotypic and genotypic<sup>7</sup> differences are almost invariably greater *within* subpopulations than *between* them. Distributions of individual measures tend to be wider than distributions of means of subgroups within the same population.

(4) Genetic differences between human populations are sufficiently small that there is no evidence that interbreeding reduces fitness.<sup>8</sup> In fact, interbreeding is more likely to increase fitness than reduce it, especially in new environments. The bulk of the genetic evidence for humans favours the hybrid-vigour hypothesis. Heterozygosity is the best hedge against extinction.

(5) A large amount of migration and interbreeding in recent centuries between hitherto isolated populations has further reduced genetic differences between human groups and blurred geographical clines.

(6) Having said all this, some of the genetic differences between both individuals and groups affect behaviour, directly or indirectly. For example, colour vision, handedness, lactose intolerance and other traits known to be under partial genetic control, differentially affect the ability of groups and individuals to use certain tools, perform certain tasks or eat certain foods. In some cases, the behavioural variation is mostly individual (handedness); in others, it is mostly sex-linked (colour vision); in others, it is partly group-linked (lactose intolerance, sickle cell anemia).

In short, no, there are no human races in the sense of well-defined subspecies, but partly genetically based behavioural differences between individuals, sexes, age groups and breeding populations have been established, and many more are likely to be discovered in the future. It is unscientific to pretend otherwise.

### **Do social races have any biological underpinning?**

At a trivial level, the answer to that question is an obvious 'yes'. A social race is *defined* as a group sharing physical (as distinguished from cultural) attributes.<sup>9</sup> But *must* there be such a linkage? Do physical differences

between groups always lead to social differences? More generally, do physical phenotypes always matter socially? And, if so, why?

My theory, first stated a decade-and-a-half-ago, is very simple.<sup>10</sup> All social organisms are biologically programmed to be nepotistic, i.e. to behave favourable (or 'altruistically') to others in proportion to their real or perceived degree of common ancestry.<sup>11</sup> Social organisms evolved to be nepotistic because altruistic investment in unrelated organisms is biologically wasted and therefore *could* not evolve, as Darwin clearly saw well over a century ago. The evidence, both human and non-human, for rampant nepotism is overwhelming. The bibliography on humans alone now runs into several hundred titles. Favouring kin among humans is sometimes conscious, sometimes unconscious, and biologically, it does not matter which. But, consciously or unconsciously, we must be able to discriminate according to degree of biological relationship to ourselves, if our beneficence to others is to increase our inclusive fitness.

For the most fundamental mammalian social tie, the mother-infant one, a simple mechanism is typically present: identification and imprinting shortly after birth by sight, sound, olfaction or a combination of these. Experimental switching of neonates has demonstrated these simple recognition mechanisms in many mammalian species. But often, and certainly for humans, the situation is much more complex. More than most (perhaps all) other organisms, humans recognise and make fine gradations of kinship, and dispense their largesse or their nastiness accordingly.<sup>12</sup>

Being intelligent and opportunistic animals, humans use all possible clues of relatedness, with a preference for the ones that are reliable, quick and cheap. Since it pays, in fitness maximisation terms, to be a fine-tuned discriminator of kinship in a wide range of situations involving hundreds or even thousands of relationships, any readily identifiable, unfalsifiable marker of probable common ancestry will be used. Specification of a few simple properties of the marker itself, of the social circumstances of the individual, and of the ecological conditions of the social encounter can lead one to good behavioural predictions. For example, it can be predicted that, among social mammals with heavy biparental investment in offspring, parenthood will be 'tested' by males more than by females, because paternity is exposed to much more uncertainty than maternity. Mothers *know* their babies are theirs; fathers cannot be so sure, and therefore will look much more for physical resemblance, especially for signature-like rare characteristics such as a mole on the nose. Women concerned with paternal investment in their offspring, on the other hand, can be expected to stress the physical resemblance of their babies to their mates more than to themselves. 'Isn't he his father's spitting image?'

Let us now widen the focus from kinship in the narrow sense, to that form of extended kinship we call race or ethnicity. Both racial and ethnic groups are socially defined by real or putative common descent, and the distinction between the two types of groups is merely in the relative salience

of biological or cultural *markers* of membership. My contention is that, in both cases, the social concern is with common biological descent, *even when the markers are primarily cultural.*

There are three main objections to my formulation of ethnocentrism and racism as extended forms of biologically rooted nepotism.

(1) The common descent of ethnic groups is often a myth, not a biological reality. Therefore, my argument is invalid. To which I reply: A myth, to be effective, has to be believed, and a myth of ethnicity will only be believed if members of an ethnic group are sufficiently alike in physical appearance and culture, and have lived together and intermarried for a sufficient period (at a minimum three or four generations) for the myth to have developed a substantial measure of biological truth. The Emperor of Japan can effectively claim to be the father of the Japanese nation in a way that Queen Victoria could never validate her claim as mother of India. Ethnicity or race cannot be invented or imagined out of nothing. It can be manipulated, used, exploited, stressed, fused or subdivided, but it must correlate with a pre-existing population bound by preferential endogamy and a common historical experience. Ethnicity is *both* primordial *and* instrumental.

(2) If ethnicity and race are both rooted in the biology of nepotism, why is it that most ethnic groups stress cultural markers of membership rather than heritable physical ones? The answer here is quite simple: because most ethnic groups seek to differentiate themselves from their immediate neighbours in situations where some short-distance migration and inter-marriage take place. Therefore, most ethnic groups *look* so much like their neighbours that they *must* rely on cultural markers of distinction. The proof of the biological pudding is that, where physical, genetic markers do a reliable job of differentiating between groups, they *are* used. In fact, the conditions under which racial groups do emerge are quite predictable: they appear after long-distance migration of sizeable groups across visible genetic clines: slavery, colonialism, indenture, voluntary migration, military conquest are so many examples, especially across large geographical barriers such as oceans or deserts. And racial groups can only survive as long as interbreeding remains relatively infrequent. Three or four generations of 25 per cent or more exogamy typically erode both racial and ethnic boundaries, and lead to the formation of new ethnic groups. Both race and ethnicity are *not* immutable, but their mutability is a function of exogamy over several generations.

(3) If biological nepotism is extended to large groups, which, under modern conditions, often comprise millions of individuals, has not the concept been diluted to the point of meaninglessness, and reduced to a mere analogy?

Of course, the more distant the biological relationship between two individuals, the more diluted the benefits of nepotism become. Indeed, the biological model predicts that the preference is proportional to the degree of

relationship. Relatedness is relative. Ego is at the core of a set of concentric circles defining declining degrees of relationship: nuclear family, extended family, lineage, clan, dialect group, subethnicity, nation. These levels of relatedness are imbedded into one another. Circumstances and interests will determine the level of solidarity which is activated at any given place and time, in a classical fission-and-fusion scheme such as British anthropologists have described for African segmentary lineage societies. But the principle of nepotism, however diluted, suffuses all levels, and there is no *a priori* reason why nepotistic discrimination should stop at any particular point, unless it can be displaced by a superior strategy of fitness maximisation. Brothers *do* murder each other, but not gratuitously and not as easily as strangers. When they do, there is usually a big payoff, such as a throne, an inheritance or a harem. To affirm the operation of nepotism, even in large groups, is not to deny the operation of other principles of cooperative behaviour (such as class solidarity), or fitness maximisation (such as deceit and treachery). The size of the group dilutes the effectiveness of solidary behaviour whatever the base of solidarity, but not more so for ethnic groups than for other social groups such as classes, corporations, clubs or army units, and perhaps even *less*. Ethnic and racial groups can be politically mobilised, even on a huge scale, with greater ease and rapidity, than other social groups, especially under external threat from an enemy who is himself defined in ethnic or racial terms.<sup>13</sup>

### **Does the biology of social race explain the etiology of racism in contemporary societies?**

Better put, does my theory of the biological genesis of social race predict and explain contemporary racism better than competing theories? The answer, I think, is yes, not because it supplants other theories, but because it complements them at a higher level of theoretical generality. It provides a predictive scheme of when, where and why racism can be expected to wax and wane, on a world-wide basis, without having to invoke any special cultural, psychological or historical causes.

Racism, defined as discriminatory behaviour based on inherited physical appearance, can be expected to arise whenever variance in inherited physical appearance is greater *between* groups than *within* groups. This is a relatively rare event, except when two or more hitherto isolated populations migrate across large geographical obstacles. It is even rarer for intergroup variance to *remain* greater than intragroup variance for long, because contact generally brings about interbreeding. So, racism will appear after long-distance migration, but will only persist as long as social barriers to exogamy prevent intermixture, and thus the recreation of a more typical situation where intragroup genetic diversity exceeds intergroup differences. Racism cannot be sustained long if racial membership cuts across the

microkinship of the family. Precisely *because* social race is an extension of the principle of nepotism, it cannot long survive interbreeding. Even the rare exceptions, such as relations between white and brown Afrikaners in South Africa, confirm the rule: the 'races' only survived the interbreeding of slavery because of the reimposition of an endogamous caste system after slavery.

Having specified the objective conditions which lead to the rise and the decline of racism, does it follow that racism will inevitably accompany these conditions? Unfortunately, I think the answer is, again, affirmative. Why? Because we are not only selfish maximisers, but intelligently opportunistic ones. Sociality is synonymous with discrimination. Only a fool behaves indiscriminately towards all. We must constantly decide when to be nice or nasty, trusting or suspicious. In the last analysis, we have only two bases for doing so: reciprocity and nepotism. Reciprocity is tricky, unstable, open to cheating, and often dependent on costly information or past experience. It only works between *individuals* who *know* one another well and who expect to *continue* interacting in a mutually beneficial way without deceit or coercion. For nepotism to yield its genetic reward, the only requirement is correct assessment of relatedness. It works best if the cost of that assessment is minimised, that is, if the assessment is reliable, easy and fast.

These simple principles enable us to predict which markers of group membership will be used under what conditions. Where neighbouring groups look alike physically, cultural markers do a better job of assessing group membership than genetic traits. Not all cultural markers are equally good. The *beret* may be a symbol of Basque ethnicity, but it is not reliable. Indeed, it has been usurped by millions of Frenchmen, Spaniards and others. Military uniforms are used for ready recognition of friend and foe from a distance, but they too are open to cheating. That is why costume is frequently a *symbol* of ethnicity, but never a *test* of it. Facial scarification is much more reliable than dress because it cannot easily be undone. Cultural markers of ethnicity which permanently change physical appearance are common: circumcision, tooth filing, tattoos and so on. Language is also a common marker. Even though it is strictly cultural, it is learned early in life and difficult to 'fake' in adulthood, because few people retain the ability to mimic the phonetics of a language learned after puberty. Until recent migrations, someone who spoke your dialect without a foreign accent was most likely to be a native fellow ethnic. But the drawback of language as a marker is that, though reliable, it is fairly slow. You have to ask questions before you shoot, and sometimes you cannot afford the delay.

Let us turn to biological markers. They only work between groups that look quite different. Between Zulus and Boers in South Africa, they worked with complete efficacy: you could shoot at 500 metres and never make a mistake. Norwegians and Swedes, on the other hand, could never be racists towards one another, even if they wanted to. They have to listen to one another before they can tell who is who. The Nazis tried to be racists with

Jews but their biological markers worked with perhaps 10 to 15 per cent reliability. In practice, they used mostly cultural markers: circumcision, synagogue attendance, the Star of David, denunciations, surnames, etc. Nazi racial theory ludicrously outstripped the reality of genetic differences. They actually had a very difficult time picking out Jews from their Gentile neighbours, especially in the assimilated Jewry of Western Europe.

Physical markers, in short, only 'work' under the limiting and rare condition of genetic heterozygosity being greater between groups than within. If such a condition is present, however, does it follow that racism is inevitable? Not by a long shot, because most genotypic differences are phenotypically hidden by recessivity or are so cryptic as to be useless for purposes of quick and easy group membership ascription. Blood types, for instance, must be tested by antigens from a blood sample, and the test is slow and costly enough that soldiers in combat are *culturally* tagged (or, in the case of the SS in Nazi Germany, even tattooed) for their genotype.

In practice, then, only a few inherited phenotypes are culturally utilised to form social races, and they are chosen, not for their behavioural significance, but simply for their *visibility*. Skin pigmentation is the most widespread because it is the most visible from the greatest distance and subject to only a limited range of environmental variation. (The genetics of skin colour are still poorly understood and are probably under the control of four to six different loci.) Facial features (notably eye, lip and nose shape), hair texture and physical stature are also used where they are diacritic. For example, in Rwanda and Burundi where the Hutu-Tutsi-Twa distinction is marked by large group differences in height, stature is widely used as a criterion. It works better in Rwanda where a rigid caste system hindered interbreeding, than in the more fluid social structure of Burundi, but, in both cases, the physical distinction was used as a quick and dirty basis for sweeping genocidal action (against the Tutsi in Rwanda, against the Hutu in Burundi). A particularly gruesome atrocity against the Tutsi in Rwanda was to amputate them at the knee to cut them down to size.

This double condition of greater inter- than intragroup heterozygosity *and* high phenotypic visibility predicts when, where and why physical phenotypes get transmuted into social races. The reason why racism became the great pandemic of the nineteenth and twentieth centuries was simply the sudden acceleration of large-scale, long-distance migration across wide genetic clines. The social consequences were enormous and noxious because racial distinctions are peculiarly invidious and immutable, well beyond cultural distinctions. All group distinctions between in-group and out-group are designed to exclude potential competitors from competition for scarce resources, but racial distinctions are especially nasty because they are almost totally beyond individual control. You can learn a language, convert to a religion, get circumcised or scarified, adopt a dress style, but you cannot become tall or white.

In practice, social race is always a social stigma for the subordinate



group, and all attempts to pretend otherwise have been singularly unsuccessful. Pragmatically, in terms of policy, it means that institutionalisation of racial categories, however innocuous or even benevolent it may appear, is frequently noxious in its consequences. I am thinking of such measures as racial questions on censuses, race-based affirmative action and similar measures, which have generally had the effect of reinforcing stigmatised racial distinctions.<sup>14</sup>

## Conclusion

Let us now close the circle on the relationship between genes and behaviour. I have repeatedly stressed that behaviour, human and non-human alike, can only be understood within an evolutionary framework that gives equal weight to genes and environment acting in concert. For humans, culture is, of course, a large part of the social environment of our species. A genetic effect on behaviour can be direct and result from natural selection, even when it leads to a reduction in fitness (e.g. overeating when food is available, leading to obesity in affluent societies, but providing valuable caloric storage in unstable hunting and gathering economies characterised by cycles of feast and famine; or the craving for drugs which mimic the pleasurable sensations of natural enzymes).

The case of racism, however, is different. The linkage between genes and behaviour is clear, but it did not evolve by natural selection. Racism is conceivably a case of culture 'highjacking' genes which were selected for different ends (e.g. skin pigmentation regulating exposure to sun radiation in different latitudes), and making them serve a totally different social agenda. Yet, that social agenda itself had an underlying biological programme: fitness maximisation through nepotism. Finally, but not less importantly, that social agenda itself had an enormous feedback effect on the life chances of different groups, on their reproductive success, and therefore, in the final analysis, on the course of human evolution itself.

We are only in the infancy of understanding the co-evolution of genes and culture, but understand it we must if we are to make sense of our behaviour, especially behaviour, such as racism, which does not *seem* to make sense.

## Notes

1 The literature is immense, and the following represent but a fraction of representative books from a wide range of perspectives: Allport 1954; Banton 1967, 1977, 1987, 1994; Barth 1969; Blalock 1967; Francis 1976; Fredrickson 1981; Gurr and Harff 1994; Horowitz 1985; Keyes 1981; Kuper and Smith 1965; Lieberman, 1980; Mason 1971; Miles 1989; Myrdal 1944; Park 1950; Patterson 1982; Rex 1970, 1986; Rex and Mason 1986; Schermerhorn 1970; Smith 1981,

1986, 1993; Shibusaki and Kwan 1965; Sowell 1981, 1983, 1994; Wagley and Harris 1958; Wilson 1973, 1978, 1987. My own *Race and Racism* (1967) is also squarely in the social science mainstream of the 1960s and 1970s.

2 Any attempt to present this evidence would take us well beyond the subject of this article, but a sketchy beginner's bibliography would minimally include the following books: Alexander 1979, 1987; Barash 1979, 1986; Betzig 1986; Boyd and Richerson 1985; Chagnon and Irons 1979; Daly and Wilson 1983, 1988; Dawkins 1976, 1982; Lopreato 1984; Lumsden and Wilson 1981; Shepher 1983; Symons 1979; Trivers 1985; van den Berghe 1979, 1981. The bibliography in Daly and Wilson (1983) while already a decade old, contains over 700 titles.

3 An allele is a specific form of a gene on a given locus (position) on a chromosome. A gene found on a given locus may have more than one variant (e.g. the gene that determines eye colour in humans), and each variant is called an allele.

4 The field of human genetics is currently exploding, partly as a consequence of the monumental Human Genome Project, by far the largest, most concerted, best organised attempt at self-understanding in human history. A standard short introduction to human genetics is Cavalli-Sforza (1977).

5 Heterozygosity refers to the presence of multi-allelic genes on any number of loci in the genome of individuals or populations.

6 A cline is a gradual change in gene frequencies across the geographical range occupied by an organism.

7 A phenotype is an observable property of an organism and can be either behavioural or anatomical. A genotype is the genetic constitution linked to an inheritable trait. Phenotype and genotype may be congruent with one another, but often are not.

8 Fitness, in the genetic sense, refers to the contribution of a given genotype to the next generation of a population in relation to the contribution of other genotypes. The fitness of an organism is measured by its reproductive success relative to other organisms in the population.

9 Nearly thirty years ago, I distinguished race as 'a group that is socially defined but on the basis of physical criteria', from ethnicity which is 'socially defined but on the basis of cultural criteria' (van den Berghe 1967: 9-10). That definition is widely shared in the social science literature, e.g. Cashmore (1988), Farley (1995), Rex (1970), Sowell (1994), Wilson (1973).

10 My main statement is contained in *The Ethnic Phenomenon* (1981), but the book was preceded by my 1978 article in *Ethnic and Racial Studies*. See also my 1986 piece in the Rex and Mason collection, *Theories of Race and Ethnic Relations*.

11 The biological basis of nepotism has now been firmly established in hundreds of social species of both vertebrates and invertebrates. Indeed, nepotism is one of the main mechanisms of sociality in all known social organisms. See Daly and Wilson 1983; Dawkins 1976; Trivers 1985; and Wilson 1975, for a few book-length overviews of both the theoretical basis of, and the empirical evidence for, nepotism.

12 My 1979 book, *Human Family Systems*, was an attempt to reinterpret the conventional anthropology of marriage and kinship in terms of the evolutionary biology of mating and reproduction. More extensive biological accounts of human mating and reproductive systems can be found in Daly and Wilson 1983, and Symons 1979.

13 I engage my critics at greater length in van den Berghe (1987).

14 Among the many critics of race-based measures to redress past racial inequities, see D'Souza 1992; Glaser 1975; Herrnstein and Murray 1994; and Sowell 1983. Most of these critics have come from the political right, but I have argued for more radical 'affirmative action' based on socio-economic criteria, not race or ethnicity.

## References

- Alexander, Richard D. 1979. *Darwinism and Human Affairs*. Seattle: University of Washington Press.

- Alexander, Richard D. 1987. *The Biology of Moral Systems*. New York: Aldine de Gruyter.
- Allport, Gordon W. 1954. *The Nature of Prejudice*. Cambridge, MA: Addison-Wesley.
- Banton, Michael. 1967. *Race Relations*. London: Tavistock.
- Banton, Michael. 1977. *The Ides of Race*. London: Tavistock.
- Banton, Michael. 1987. *Racial Theories*. Cambridge: Cambridge University Press.
- Banton, Michael. 1994. *Discrimination*. Philadelphia: Open University Press.
- Barash, David. 1979. *The Whisperings Within*. New York: Harper and Row.
- Barash, David. 1986. *The Hare and the Tortoise*. New York: Viking Penguin.
- Barth, Fredrick (ed.), 1969. *Ethnic Groups and Boundaries*. Boston: Little Brown.
- Betzig, L. L. 1986. *Despotism and Differential Reproduction*. Hawthorne, NY: Aldine.
- Blalock, Hubert M. 1967. *Toward a Theory of Minority Group Relations*. New York: Wiley.
- Boyd, Robert and Richerson, Peter J. 1985. *Culture and the Evolutionary Process*. Chicago: University of Chicago Press.
- Cashmore, E. Ellis. 1988. *Dictionary of Race and Ethnic Relations*. London: Routledge.
- Cavalli-Sforza, L. L. 1977. *Elements of Human Genetics*. Menlo Park, CA: W. A. Benjamin.
- Chagnon, Napoleon and Irons, William. (eds.). 1979. *Evolutionary Biology and Human Social Behaviour*. North Scituate, MA: Duxbury.
- Daly, Martin and Wilson, Margo. 1983. *Sex, Evolution and Behavior*. Belmont, CA: Wadsworth.
- Daly, Martin and Wilson, Margo. 1988. *Homicide*. New York: Aldine de Gruyter.
- Dawkins, Richard. 1976. *The Selfish Gene*. Oxford: Oxford University Press.
- Dawkins, Richard. 1982. *The Extended Phenotype*. San Francisco: W. H. Freeman.
- D'Souza, Dinesh. 1992. *Illiberal Education*. New York: Vintage Books.
- Farley, John E. 1995. *Majority-Minority Relations*. Englewood Cliffs, NJ: Prentice Hall.
- Francis, E. K. 1976. *Interethnic Relations*. New York: Elsevier.
- Fredrickson, George M. 1981. *White Supremacy*. Oxford: Oxford University Press.
- Glazer, Nathan. 1975. *Affirmative Discrimination*. New York: Basic Books.
- Gurr, Ted R. and Harff, Barbara. 1994. *Ethnic Conflicts in World Politics*. Boulder: Westview Press.
- Herrnstein, Richard J. and Murray, Charles. 1994. *The Bell Curve*. New York: Free Press.
- Horowitz, Donald L. 1985. *Ethnic Groups in Conflict*. Berkeley: University of California Press.
- Keyes, Charles F. (ed.), 1981. *Ethnic Change*. Seattle: University of Washington Press.
- Kuper, Leo and Smith, M. G. 1965. *Pluralism in Africa*. Berkeley: University of California Press.
- Lieberman, Stanley. 1980. *A Piece of the Pie*. Berkeley: University of California Press.
- Lopreato, Joseph. 1984. *Human Nature and Biocultural Evolution*. Boston: Allen and Unwin.
- Lumsden, Charles J. and Wilson, E. O. 1981. *Genes, Mind and Culture*. Cambridge, MA: Harvard University Press.
- Mason, Philip. 1971. *Patterns of Dominance*. London: Oxford University Press.
- Miles, Robert. 1989. *Racism*. London: Routledge.
- Myrdal, Gunnar. 1944. *An American Dilemma*. New York: Harper.
- Park, Robert Ezra. 1950. *Race and Culture*. New York: The Free Press.
- Patterson, Orlando. 1982. *Slavery and Social Death*. Cambridge, MA: Harvard University Press.
- Rex, John. 1970. *Race Relations in Sociological Theory*. New York: Schocken.
- Rex, John. 1986. *Race and Ethnicity*. Philadelphia: Open University Press.
- Rex, John and Mason, David, (eds.), 1986. *Theories of Race and Ethnic Relations*. Cambridge: Cambridge University Press.
- Schermerhorn, Richard A. 1970. *Comparative Ethnic Relations*. New York: Random House.
- Shepher, Joseph. 1983. *Incest: A Biosocial View*. New York: Academic Press.
- Shibutani, R. and Kwan, K. M. 1965. *Ethnic Stratification*. New York: Macmillan.
- Smith, Anthony D. 1981. *The Ethnic Revival*. Cambridge: Cambridge University Press.
- Smith, Anthony D. 1986. *The Ethnic Origin of Nations*. Oxford: Blackwell.
- Smith, Anthony D. 1993. *National Identity*. Reno, University of Nevada Press.

- Sowell, Thomas. 1981. *Ethnic America, A History*. New York: Basic Books.
- Sowell, Thomas. 1983. *The Economics and Politics of Race*. New York: William Morrow.
- Sowell, Thomas. 1994. *Race and Culture: A Word View*. New York: Basic Books.
- Symons, Donald. 1979. *The Evolution of Human Sexuality*. Oxford: Oxford University Press.
- Trivers, R. L. 1985. *Social Evolution*. Menlo Park, CA: Benjamin Cummings.
- van den Berghe, Pierre L. 1967. *Race and Racism*. New York: Wiley.
- van den Berghe, Pierre L. 1978. 'Race and ethnicity: a sociobiological perspective', *Ethnic and Racial Studies* 1, 4: 401–11.
- van den Berghe, Pierre L. 1979. *Human Family Systems*. New York: Elsevier.
- van den Berghe, Pierre L. 1981. *The Ethnic Phenomenon*. New York: Elsevier.
- van den Berghe, Pierre L. 1986. 'Ethnicity and the sociobiology debate', in John Rex and David Mason (eds.), *Theories of Race and Ethnic Relations*. Cambridge: Cambridge University Press.
- Wagley, Charles and Harris, Marvin. 1958. *Minorities in the New World*. New York: Columbia University Press.
- Wilson, E. O. 1975. *Sociobiology: The New Synthesis*. Cambridge, MA: Harvard University Press.
- Wilson, William J. 1973. *Power, Racism and Privilege*. New York: Macmillan.
- Wilson, William J. 1978. *The Declining Significance of Race*. Chicago: University of Chicago Press.
- Wilson, William J. 1987. *The Truly Disadvantaged*. Chicago: University of Chicago Press.