"Race" 1997 and 2001:

A Race Odyssey

Leonard Lieberman

Central Michigan University

General Anthropology Division

American Anthropological Association

GENERAL ANTHROPOLOGY DIVISION MODULES IN TEACHING ANTHROPOLOGY

Series Editor: Patricia C. Rice

Module 1: Name That Fossil: An Exercise in Hominid Taxonomy (Patricia Rice and Philip Stein)
Module 2: Races or Clines? (Leonard Lieberman and Patricia Rice)
Module 3: "Race" 1997 and 2001: A Race Odyssey (Leonard Lieberman)
Module 4: Marriage and Family in (North) India (Serena Nanda)

> A reasonable question of one time and place can be made obsolete by new information. In this way the questions of race, racial purity, and related issues have become the anthropological version of the flat earth theory (Weiss and Mann 1990:565).

To students reading this essay, it should come as no surprise that scientific concepts change over time. We have learned that the earth is not flat and not the center of the universe. Similarly "race" as a scientific concept has undergone enormous change in the last 200 years. An examination of physical anthropology textbooks published from 1990 to 1996, and into early 1997, indicates that **none** support the traditional concept of three or four discrete races, and **all** are critical of it.

The change can be illustrated in two editions of one text. In 1988, Bernard Campbell's Humankind Emerging defined races as "A group of **populations** of a **species** distinct from other groups of the same species in at least a few characteristics" (Campbell 1988:532). In 1996, Campbell and James Loy's revision of this text presented race differently: "Races: among humans, an essentially arbitrary concept based on perceived physical or behavioral differences. As a biological concept, race is no longer used by most physical anthropologists" (Campbell and Loy 1996:561).

What ugly facts laid low the concept of race? The changed thinking about race is related to the weaknesses of the concept, and the availability of both newer **data**, and the **concepts** of clines and ethnicity (defined below). In the course of this essay, we will see that the race concept has increasingly lost supporting consensus and is rejected by most anthropologists due to the following problems:

(1) the concept is not useful or necessary in research;
(2) there is no agreement on definition;
(3) the number of races cannot be identified; estimates have varied from three to three hundred or more (Staski and Marks 1992:342);
(4) the strange idea persists that there are three or four basic races;
(5) the misleading and oversimplified labeling of "Caucasoid," "Negroid," "Mongoloid" are attached to these three alleged races;
(6) the idea of three or even four races leaves out vast populations and regions of the world;
(7) people who had parents from two different "races" cannot be fairly classified in only one of them, but in the United States they are placed in the subordinated race;
(8) the concept is still being used outside of anthropology to persuade others that race determines one's culture and behavior and that cultures and peoples around the world can be ranked from superior to inferior, and that the superior race is "pure;"
(9) race encourages thinking that all or most members of a so-called race are similar in their biology, whereas there is more variation within so-called races than between them, and, finally;
(10) new data indicate that traits are distributed in geographic gradations and each

gradation for a particular trait varies in different geographic patterns consistently; if they do not covary, then the boundary lines for races cannot be identified.

Individuals do vary biologically from each other, and so do populations in the center of China or central Africa, or central Europe, but there are enormous gradations that are present across and between these areas. If there is one utility the race concept has, it is to stimulate debate about how to conceptualize this biological variation.

Race as a Social and Historical Construct

It is part of the Weltanschauung (world view) of modern Europeans that races have always been around. But the ancient Greeks had no word for race. Although the Greek *genos* is often translated as "race," its prime meaning is "those bound together by descent in families, clans, and tribes..." (Hannaford 1996:22). Race was mentioned by Francois Tant in Thresor de la Langue Francaise in 1600 and appeared in only five documents during that century (Montagu 1965:9-10). In the period since 1492, European overseas empires and colonies were established in vast areas of the New World, Asia, and Africa. The establishment of mines and plantations enriched Europe while impoverishing and decimating the conquered and enslaved peoples in Africa and the New World. The race concept helped to give all this the appearance of scientific justification. If some races were regarded as "inferior," colonial powers, sea captains, and foot soldiers alike felt free to loot and plunder their resources.

In 1758, in Systema Naturae, Carolus Linnaeus described the biological and behavioral characteristics of four "varieties" of the human species. He wrote that Europeans were governed by laws, Native Americans by customs, Asiatics by opinions, and Africans by caprice (whim). Intended or unintended, it was a presentation of a hierarchy from superior to inferior. The idea of the existence of race, and the inferiority of non-European races was built up over time; it was socially constructed by historical events (Smedley 1993). For two centuries, races were seen as real divisions of the species, each having a combination of inherent biological and cultural characteristics.

The history of the growth of the United States has created a vivid picture of the entire world as made up of three distinctive races: Caucasoid, Negroid, Mongoloid. This is because people have come to America in waves, with the first wave coming first from Asia across the Bering Strait at least 12,000 years ago. Then came Europeans beginning in the 16th century. They began enslaving and importing Africans and establishing plantations dependent on slave labor. In the 19th century, still more waves of immigrants came, mostly from southeast China. In the United States the stereotype of the "big three races" was based on these immigrants from three parts of the world: Southeast China, Northwest Europe, and West Africa. It made the view of three races seem true, natural, and inescapable. Every individual had to be in one or another of these races. However, that left most of the world out of the picture as illustrated in Figure 1 (Marks 1995:158). Three races could not accurately represent diversity over the entire world. In the late 19th century and early in the 20th century, the view developed that even the **Europeans** were in fact made up of three races:

Nordic, Alpine, and Mediterranean, and then there was the Irish race and the Jewish race, and on and on. But adding more races only made for confusion. What was needed was an entirely different conceptual approach, and that was to be provided by information from genetics and by the related idea of clines. As early as 1942, Ashley Montagu was the first American anthropologist to reject the race concept. He asserted that the idea of race amounted to an omelette of traits that did not refer to any coherent reality in nature. He described it as "Man's Most Dangerous Myth" because of its use in justifying racist practices.

Definitions of Race

In the middle of the twentieth century, several definitions of race were proposed using the idea of gene frequencies (percentages) as their core. There was no consensus on any particular definition, but one was popular:

> We may define a human race as a population which differs significantly from other populations in regard to the frequency of one or more of the genes it possesses. It is an arbitrary matter which, and how many, gene loci we choose to consider as a significant "constellation" (Boyd 1950:207).

The idea of "one" gene difference defining a race could not be taken seriously since it would mean that every **family** would qualify as a race. As to using more genes, no guidance was given by the definition as to how many or how to select these genes (Boyd 1950:202).

For some time races continued to be described on the basis of observable physical features such as skin color, nasal width, or hair texture. Use of these characteristics created the impression that most of the members of a race would share these traits. In short, this idea yielded a set of stereotypes, a typology of several racial stereotypes, with the impression given that the boundary lines between the races could be identified. As I write this essay, the most recently published definition refers to:

> ...regional variations often called races...a group of individuals geographically (and for humans, also culturally) determined who share a common gene pool and varying combinations of distinguishing characteristics (Wolpoff and Caspari 1997:17, 407, parenthesis in original).

This definition does represent an improvement over past definitions in several respects. It illustrates how far conceptions of race have changed because it explicitly brings in the influence of culture (see biocultural section below). But equally important, it is a definition that illustrates that the concept of race is dead in physical anthropology because it recognizes "a group of individuals with varying combinations of distinguishing characteristics." As explained in the next section, the varying combinations referred to by the authors are clines that do not covary. Therefore there is no identifiable boundary line for this or any gene pool; there is no correspondence to any classification such as race within a species. Milford Wolpoff and Rachel Caspari seem aware "that intraspecific

variants are ephemera: diversifying, combining, and disappearing in an endless braided stream" (Tattersall 1997:11). It should be recognized that this definition is a useful description of population variation that should have the effect of encouraging thinking in terms of gene frequencies and their clinal distribution.

Human Clinal Variation Disproves and Replaces the Race Concept

New data and the new concept of clines became prominent in the 1960s. (A cline is a continuous variation in the frequency of a trait over a geographic area, Park 1996:299.) The cline idea is very similar to the weather map's isotherms and the cartographer's indications of altitude. It was the clinal distribution of Hb^s (sickling hemoglobin) as presented by Frank Livingstone in 1958, that brought the concept of clines to the attention of anthropologists. Later in "On the Non-existence of Human Races" (1962), he declared that there are no races, "there are only clines." In 1964, C. Loring Brace suggested that the study of one cline at a time was an alternative to "race" and he provided four cline maps that illustrate that when transparencies of different clines are combined it becomes apparent that boundary lines between races are not supported. Why? Because the clinal patterns do **not covary**. For example, the genes for B type blood increase in frequency in an east-west direction, skin pigments grade north-south, and sickle cell decreases out of West Africa in a northeast direction. (The lack of covariance in clines is presented more fully in module #2 in this series, "Races or Clines?, " Lieberman and Rice 1996.)

In order for a population to become a distinct race, the following conditions must exist: (1) population isolation must limit gene flow with neighboring populations; (2) environmental differences and distinctive natural selection must increase the frequency of genetic differences among populations; (3) there must be adequate time for these conditions to operate on human populations. But, because of geographic mobility, no human population has been isolated for enough time for this to happen. Further, all humans utilize their cultural environment to shield them from at least some aspects of natural selection. Skin color, for example, evolved before cultures were elaborate enough to provide protection from exposure to the ultraviolet rays of the sun (Park 1996:300).

Continuous Variation

Understanding of clines and the rejection of race typologies depends upon grasping the **continuous** nature of human biological variation. A **discrete** variation is one that is present or absent, such as the male sex or the female sex -- you either have it or you don't; **continuous** variation refers to traits that vary from more to less, such as height, weight, and skin color. In general, much human variation is continuous, not discrete (Relethford 1997); hence it has been difficult to shoehorn populations into discrete race units. The frequency of Hb^s in a geographic region is illustrative of continuous variation. A person who carries one gene for Hb^s resists malaria. It is found at high frequencies in West Africa and at decreasing frequencies to the east and around the Mediterranean. It is distributed in a clinal (or continuous) gradation. If used to classify race, then Africans and Greeks and Spaniards and Middle Easterners would be in the same race. Using

the ABO blood types reveals a similar lack of consistency. Consider these gene frequencies for the dark-skinned people of New Guinea: A=.29, B=.10, and O=.61. Would the frequencies be similar or different for the light-skinned people of Germany? Answer: they are almost identical: A=.29, B=.11, O=.60 (Staski and Marks 1992:338). What is the lesson here?

Most Traits do not Covary

What would a map look like that showed the clinal variation of all of the following traits: skin color, Hb^s, body size, lactose intolerance (inability to digest the sugar in milk), and the cephalic index measuring width of head relative to its length? It would resemble a jumble. No races would be identified because the clines do not covary; rather they are distributed in different (discordant) patterns over geographic space (Lieberman and Rice 1996; Campbell and Loy 1996:535). If we group people who tend to be round-headed, we have Iranians, Chinese, Germans, and Hawaiians. Long-headed people would include Native Australians and Bantus. Intermediate between these long and round heads would be Eskimos, Native American Sioux, and Melanesians. If races could be identified, the continuous traits (clines) should vary together. Human populations are polymorphic (many forms); they contain a range of variation for each character, and these extend in discordant clinal patterns across political and alleged racial boundary lines.

Ethnicity as a Biocultural Concept

If populations of people with **perceived** similarities are not races then how are we to conceptualize them? The term "Ethnic group" was proposed by Huxley and Haddon as early as 1936 and by Montagu in 1974:72). But since ethnicity has acquired a usage designating a cultural group, some anthropologists vigorously object to use of that term for biological populations that used to be called races (see Boaz and Almquist 1977:447). However, Montagu viewed ethnicity as both biological and cultural when he attested that ethnic groups "maintain their differences, physical and cultural, by means of isolating mechanisms such as geographic and social barriers" (Montagu 1974:72 and 1942). In cultural terms, an ethnic group refers to a population whose beliefs, boundaries, and identities are set by its members and the pressures of outsiders, defining the members belief in their shared ancestry on the basis of religion, nationality, geography, or folk belief in "race."

Rules of mating preference and power relations between members of various ethnic groups govern gene flow and for a time may lead a population toward increased biological homogeneity or heterogeneity. European Americans provide an example of increasing heterogeneity, as matings occur between people of different European backgrounds, and between these and Americans of Asian and/or African ancestry (Spickard 1989, Roots 1989). African Americans already possess as much as 30 percent of genes from European Americans (Glass and Li 1953). Ethnicity has biological consequences and should be seen in a cultural and biological context (Jackson 1972:125).

The channeling of gene flow by rules requiring mating within an ethnic group (endogamy) provides an explanation for why members of a population come to resemble each other. Departures

from these marriage rules (exogamy) help explain variety within that population.

Another reason for physical similarity within certain populations may be the establishment of a colony from a larger population by a small group with family-like similarities. The new colony may differ by chance from the parent population (a process called genetic drift or founder's effect). Later, the group may expand moderately as in the case of religious isolates, such as the Amish, or expand into large populations. Brace (1996) refers to such populations as having clusters of traits and he suggests that these do not identify races because the traits are non-adaptive and are more like family-level similarities. A related view by Brues has been described this way:

> The whole human species, of course, is tremendously variable. Even within one nation, no matter how isolated, even within one family, we find innumerable differences between individuals....Some of the differences correlated with area of ancestry probably arose many thousand years ago, when small bands, perhaps a few families, left a group and went out to found new tribes. Their individual and family characteristics became the heritage of what later became large populations. Thus population and racial differences are, in a sense, the lengthened shadow of individual differences (Brues 1985 in Stein and Rowe 1996:170).

Another way to visualize the effect of gene flow, genetic drift, and natural selection is to think about variation between and within various large populations. In 1972, Richard Lewontin examined seventeen hemoglobin traits in seven alleged "races," conventionally labeled Africans, Amerindians, Caucasians, Mongoloids, South Asians, Oceanians, and Australian Aborigines. He found that "the mean proportion of the total species diversity that is contained within populations is 85.4 percent...the difference between populations within a race is 8.3 percent, so that only 6.3 percent is accounted for by racial classification" (Lewontin 1972:396, Relethford 1990:150). In general terms, there is more variation within each of the "races," as traditionally defined, than between them.

Caucasoid, Negroid, Mongoloid are Cultural Fictions

"Negroid" is a term derived from the Latin for black. But skin color is controlled by natural selection, and "a classification based on a trait whose [geographic distribution] is under the control of selection will tell us little about the degree of relationship of those populations that display similar degrees of development of the trait in question" (Brace 1996:108). For example, the people of New Guinea and Australia are dark-skinned because of the action of natural selection in an equatorial area, but they are not "Negroid;" they have physical features other than skin color that distinguish them from Africans. Australians are dark skinned but often have curly or wavy hair, and red hair when young. Hair would say "European," skin would say "African" (Relethford 1997:360). The Amharas of Ethiopia tend to have European-like facial features, but dark skin (Brues 1997:290). Other physical features of subsaharan Africans, such as nose shape, dental projection, and height, also vary geographically.

"Caucasoid" also obscures a multitude of variation from Madrid to Moscow, from Sicily to Scotland, from parts of India, Iran, and the Middle East to Scandinavia.

Nor can all Asians be designated as "Mongoloid." Asia is a geographical region inhabited by a great diversity of people including those in the Philippines, Vietnam, India, and the various parts of China. Mongoloid is a term derived from the Mongols, who ironically differ from other Asians such that the term Mongoloid is very misleading when applied to Asians in general (Brace 1996, Li et al. 1991:278). Because of these and other variations and inconsistencies, the terms Caucasoid, Negroid, and Mongoloid are not precise and therefore lack utility.

Does Race Explain the Culture of Various Societies? Are there Superior "Races"?

For many years, the superiority of one race over others has been proclaimed and held to be the result of racial purity. If purity existed, it would mean a gene pool did not change, was consistently homogeneous, and that its members practiced inbreeding. Human populations with these characteristics will be more susceptible to new diseases, carry more recessive gene abnormalities, and be less able to adapt to changing environment. The idea of the superiority of one society over others is an ancient expression of ethnocentrism, judging other societies by the standards of one's own. When the Romans first colonized Britain, they viewed the locals as "howling barbarians." When Britannia ruled the waves in the 19th century, Italy did not exist as a nation and Rome was merely a place for British travelers to view ancient ruins. When the feudal order prevailed in Europe, prosperous states existed in subsaharan Africa. The Spanish were able to conquer the Inca and Aztecs because they brought guns and infectious diseases, not because of superior genes. Societies cycle up and cycle down, but the homogeneity of genes in their populations does not explain these changes. Genes do flow from one population to another, but more importantly, new ideas and technologies become available through such contacts and often cause change at a rapid rate. There are no superior races, and genes do not explain why cultures differ from each other or change over time.

Race and IQ

African Americans average 15 points below European Americans in their IQ scores. The cultural myth has been built throughout the 20th century that this difference in scores is largely (60 to 80 percent) the result of genetic differences, and very little influenced by environment. The myth collapses if one examines its major assumptions concerning what is measured, and the interaction of environmental and genetic influences. Neither African Americans nor European Americans constitute a homogeneous biological race. Furthermore, the assertion that IQ tests measure a biological entity called "cognitive ability" is a fiction constructed during this century. What is measured is **performance** on a test of scholastic and cultural knowledge (Marks 1997:3).

Jane Mercer's (1972) careful study on this subject controlled social environment and found that among those Mexican Americans, African Americans, and European Americans whose environments were similar on five characteristics, IQ scores did not differ statistically. Hence, the

influence of environment explains the difference in IQ scores among ethnic groups.

The role of genetics and IQ was examined by Sandra Scarr and her colleagues (1977). They tested the proposition that intelligence test scores would vary with the degree of African and European ancestry. The degree of ancestry was measured by identifying over a dozen hereditary factors identifiable in blood samples; degree of pigmentation was also considered. The correlation between these hereditary factors and IQ scores was very close to zero. Intelligence did not vary in relation to degree of ancestry from Europe or Africa.

Another study that examines the influence of heredity compared IQ scores of children fathered by United States servicemen and born to German women following World War II. The average IQ score of children of African American fathers is almost the same as the average scores of children of European American fathers (Eyferth 1961). Another illustration of the influence of environment is provided by children of the Buraku-min people in Japan. They average 16 points below other Japanese, about as much as African Americans differ from European Americans in those scores. Genetically the Buraku-min and other Japanese are biologically very similar, but the Buraku-min occupy a distinctively lower status in Japan and live in a more limited environment in terms of occupations, income, and housing (Birdsell 1981:386, cited by Boas and Almquist 1997:472). It is their environment that explains their lower scores, not their genes. All of these studies of nature versus nurture point to the fact that our species, and individuals within the species, have a potential for intelligence, but that like language and other aspects of culture, the degree to which it develops depends on our environment.

Of course, individuals in any culture differ in performance on IQ tests, but test averages for populations of similar social and cultural experience do not. Average scores for populations will become more equal when their access to opportunities is less unequal.

The Origins of "Races"

The most recent model showing the origin of "races" was first presented in 1987 (Cann, et al.). The co-authors analyzed the mitochondrial DNA (mt DNA) that is responsible for oxygen metabolism. This DNA is located in a small organ in the cell fluids outside the nucleus. They concluded that the mitochondrial DNA with the most variation in its genes was the oldest, and since it was found in persons of African descent modern humans were said to originate in Africa. Assuming a constant rate of mutation, the authors concluded that the mtDNA originated in a woman around 200,000 years ago, referred to as mitochondrial Eve. The authors contend that about 100,000 years ago, migration began out of Africa into Asia and Europe where earlier inhabitants were displaced (exterminated or out-reproduced); they suggest that thereafter races evolved in different geographic regions. As a result, race characteristics are relatively recent and seen by some as minor in their degree of difference. However, skeptics can point out that when the evolution of biological characteristics occurs, it involves the genes in the nucleus of the cell and not those in the mitochondria. Therefore the study of the evolution of mitochondria tells us nothing about the evolution of so-called races (Weiss and Mann 1990).

The alternative view of the origin of "races" is provided by a multiregional model (Wolpoff 1989). Based on analyses of fossil evidence, it holds that since about two million years ago, *Homo sapiens* have been a single species that once migrated out of Africa and evolved different racial features in different regions. This view maintains that *Homo sapiens* remained one species, united by extensive mating between populations. The evidence for continuity in each region is seen in cranial similarities, although some of the evidence is of a fragmentary nature. Although this model presents racial origins as having some antiquity, it minimizes their degree of difference by stressing gene flow and the universals of culture and language. The use of the race concept is one factor that draws the attention of readers to these two models, but nothing in the way of conceptual clarity is gained by its use that could not be achieved by referring to populations and geographic regions.

Why is There Support for the Race Concept Among Forensic Anthropologists?

Rejection of race among physical anthropologists is not unanimous. Specialists known as forensic anthropologists attempt to identify the sex, age, and race of human skeletal material when reporting to criminal justice authorities on the identity of human remains. Forensic anthropologists claim accurate classification of the race of crania in 80 percent or more in various studies. Norman Sauer is a forensic anthropologist who published a paper titled "Forensic Anthropology and the Concept of Race: If Races Don't Exist, Why are Forensic Anthropologists so Good at Identifying Them?" (1992:107). His answer was:

> ...the successful assignment of race to a skeletal specimen is not a vindication of the race concept, but rather a prediction that an individual, while alive was assigned to a particular socially constructed "racial" category. A specimen may display features that point to African ancestry. In this country that person is likely to have been labeled Black regardless of whether or not such a race actually exists in nature (Sauer 1992:107).

The high rate of forensic accuracy in identifying persons of partial African ancestry is made possible by hypodescent, or the cultural rule that a person who has an ancestor who was a member of a subordinated group in a hierarchical society is therefore classified as a member of that subordinated group (Harris and Kottak 1963). This is also referred to as the "one-drop rule", in which a person with any African ancestry is classified as "Negro." In practice, the classification of a skeleton or cranium in one race or another is based on using skeletal reference collections such as the Terry Collection at the Smithsonian Institute. Meticulous comparisons and measurements are made on crania. When a study of a number of remains is completed, the classifications are compared to the documents listing the race of the individual in order to identify their rate of accuracy. The meaning of these forensic studies, and their high rate of accuracy, depends on the accuracy of these documents and the procedure by which people were racially classified. Sometimes the individual's race was known from a birth certificate or other document. Sometimes the individual was classified after death and on the way to a medical dissecting laboratory, and the classification was done by an admissions clerk or laboratory technician. In both cases, if any feature fits the expected appearance of "Negro," that person was classified as Negro even if that person had only 1/8 or 1/16 African ancestry. Note that being of 7/8 European ancestry does not make one "white," but having just a

little bit of African ancestry results in being classified as "Negro" (Marks 1995). In this way, the rule of hypodescent and the power of the dominant culture draw the color line, and force individuals to accept their identity as "black" or "Negro." It is crucial to realize that the label does not identify a population based on purely biological criteria but indicates the individual "was assigned to a particular **socially constructed** 'racial' category" (Sauer 1992:107, emphasis added). Such a constructed social category is one form of ethnicity. For biological purposes it is more accurate to refer to the precise geographic region of the person's ancestors.

If the Race Concept Is Invalid, Who Are Those "Other" People, And Who Am I?

You, and I, and any "other" people are whatever they and we believe about ourselves. Anthropologists call this "ethnic identity." An ethnic identity is one in which people share a sense of community because of their belief in origin in a particular culture, geographic residence, language, religion, nation, or socially constructed "race." In every case, these ethnic identities are socially constructed and culturally maintained, or changed, from generation to generation (See Weber 1968[1922], Barth 1969).

Thus some of us are African Americans, or Jewish Americans, or Japanese Americans; some refer to themselves as European Americans. The important point is that the members of the group develop the name, identity, boundaries, and other beliefs of their group, in interaction with each other and with other groups. Many new immigrant groups are in the process of forming their identity in the United States, while older ethnic groups are struggling to survive in Bosnia and elsewhere. These ethnic identities are all folk taxonomies, whether they are called race or religion or any of the other terms. Folk taxonomies are not scientific; they are cultural classifications that arise from the experience of people in groups.

Race in 2001: A Conceptual Odyssey

The reader will remember that I began this essay by observing that concepts in science change with the development of new concepts and data. The race concept was constructed over a 200-year period, and in the 20th century, it was thoroughly criticized (deconstructed) and replaced by thinking in terms of clinal variation. Recently, further reconstruction of the concept has been proposed by Carol Mukhopadhyay and Yolanda Moses, two cultural anthropologists, in a paper titled "Reestablishing 'Race' in Anthropological Discourse" (Mukhopadhyay and Moses, in press). They point out that the old race concept included a number of dimensions, of which "The most pernicious premises have now been discarded by virtually all anthropologists." They suggest that existing research on the rejection of the race concept (Lieberman 1989) "tells us nothing about which aspects of the old racial paradigm persist among cultural anthropologists" and emphasize that "Developing and publicly articulating a 'unified' anthropological voice on 'race' will require open dialogue across ethnic groups and between physical and cultural anthropologists."

Although it is possible that Mukhopadhyay and Moses's call to "reestablish 'race' in anthropological discourse" will be followed by a revival of the traditional concept, that is clearly

not their purpose. They state that "A unified approach would provide concrete demonstrations of the impermanent, dynamic, socially created 'nature' of human groups, even those that currently are characterized as phenotypically [physically] distinct" (p. 32). It is important to note that the authors do not propose a revitalized biological concept of race, but rather a biocultural concept that would bring biological and cultural conceptions together. It was proposed over 50 years ago that "ethnicity" is such a concept (Montagu 1942). The readers of this essay may soon witness further change of a scientific concept.

NOTES

1. This module assumes that you have already studied and understand the most basic principles of evolution. The module has been presented to a class of 25 sophomore, junior, and senior students at Central Michigan University enrolled in Anthropology 351, Human Variation. Most have taken the introductory course in physical anthropology, which included the modern synthesis of Darwin and genetics, and an introduction to clines, race, and ethnicity. Early in the semester, they were asked to read the module and comment on it. Also, very helpful editorial suggestions were made by Bernard Meltzer and Patricia Rice.

2. A survey of physical anthropologists in the mid-1980s reported that only 50 percent of biological anthropologists supported the race concept, a sharp decline from the nearly 100 percent consensus in the earlier decades of the 20th century (Lieberman, Stevenson, and Reynolds 1989:69).

3. Dialogue "across ethnic groups," should be seen in terms of differing but legitimate concerns of some ethnic groups in the United States and within anthropology. For example, some African Americans may prefer to support a reestablished but redefined concept of race because they view themselves as a race and take pride in their racial identity. On the other hand, some African Americans and members of other groups, such as Jewish Americans, may see danger in the race concept because of its past use in justifying genocide. It is a paradox that in popular thinking, Jews and the Irish no longer are seen as races, but African Americans are.

4. The second co-author of this paper is the 1996 president of the American Anthropological Association, and the article cited will appear in a special issue of the flagship journal of the Association, The American Anthropologist. As a result of the source, and because conceptualization of human biological variation has changed so recently, debate about human variation will probably be stimulated. There are two other factors encouraging the use of race in the future. One is the use of the term in books and papers as part of models of human evolution. The second is the ironic fact of the frequent use of the term in the titles of books and papers rejecting the concept, as well as those supporting it.

References
(* = Textbooks of Physical Anthropology, 1990-1997)

Barth, Frederick
1969 Ethnic Groups and Boundaries. Boston, MA: Little Brown.

Benedict, Ruth
1940 Race: Science and Politics. New York: Compass Books (1959).

Birdsell, James B.
1981 Human Evolution: An Introduction of the New Physical Anthropology. Boston, MA: Houghton-Mifflin.

*Boaz, Noel T. and Alan J. Almquist
1997 Biological Anthropology: A Synthetic Approach to Human Evolution. Upper Saddle river, NJ: Prentice-Hall.

Brace, C. Loring
1964a "A Nonracial Approach Towards the Understanding of Human Diversity." In The Concept of Race, Ashley Montagu, ed., pp. 103-152. New York: Free Press.

Brace, C. Loring
1996 "A Four-Letter Word Called "Race." In Race and Other Misadventures. Larry T. Reynolds and Leonard Lieberman. Dix Hills, NY: General Hall Press.

Brues, A.
1985 Foreword, in T. Overfield, Biologic Variation in Health and Illness: Race, Age, and Sex Differences. Menlo Park, CA: Addision-Wesley.

Brues, Alice N.
1977 People and Races. New York: Macmillan.

Brues, Alice N.
1993 "The Objective View of Race." Napa Bulletin 13:74-78.

Campbell, Bernard G.
1988 Humankind Emerging, 5th edition. Glenview, IL: Scott, Foresman/Little, Brown.

*Campbell, Bernard G. and James D. Loy
1996 Humankind Emerging, 7th edition. New York: Harper Collins College Publishers.

Cann, Rebecca L., Mark Stoneking and Allen C. Wilson
1987 "Mitochondrial DNA and Human Evolution." Nature 325:31-36.

Eyferth, K.
1961 "Leistungen verschiedener gruppen von Hamburg-Weschsler Intelligenztest fur Kinder" [Performance of various groups on the Hamburg-Wechsler intelligence test for children]. Archiv fur die Gesamte Psychologie 113:222-241.

Giles, Eugene and Orville Elliot
1962 "Race Identification from Cranial Measurements". Journal of Forensic Science 7:147-157.

Glass, Bentley and C.C. Li
1953 "The Dynamics of Racial Intermixture--An Analysis Based on the American Negro." American Journal of Human Genetics 5:1-20.

Gould, Stephen Jay
1996 The Mismeasure of Man. New York: W.W. Norton. (Revised).

Hannaford, Ivan
1996 Race: The History of an Idea in the West. Baltimore, MD: Johns Hopkins University Press.

Harris, Marvin
1988 Culture, People, Nature. New York: Harper Collins.

Harris, Marvin and Conrad Kottak
1963 "The Structural Significance of Brazilian Racial Categories". Sociologia 25:203-08.

Hooton, Ernest A.
1926 "Methods of Racial Analysis". Science 63:75-81

Hulse, Frederick S.
1971 The Human Species: An Introduction to Physical Anthropology. New York: Random House.

Huxley, Julian S. and A.C. Haddon
1936 We Europeans: A Survey of "Racial Problems." New York: Cambridge University Press.

Jackson, Fatimah L.C.
1992 "Race and Ethnicity as Biological Constructs". Ethnicity and Disease 2:120-125.

*Jurmain, Robert, Harry Nelson, Lynn Kilgore and Wanda Trevathan
1997 Introduction to Physical Anthropology. Belmont, CA: West/Wadsworth. Seventh edition.

*Jurmain, Robert and Harry Nelson
1994 Introduction to Physical Anthropology, 6th edition. Minneapolis: West Publishing Company.

Lewontin, Richard D.
1973 "The Apportionment of Human Diversity." Evolutionary Biology 6:381-398.

Li, Yonghi and C. Loring Brace, Gao Qiang and David B. Tracer
1991 "Dimensions of Face in Asia in the Perspective of Geography and Prehistory". American Journal of Physical Anthropology 85:269-279.

Lieberman, Leonard and Rodney C. Kirk
1996 "Teaching About Human Variation" in The Teaching of Anthropology. Problems, Issues and Decisions, pp. 193-207. Conrad Phillip Kottak, Jane J. White, Richard H. Furlow, and Patricia C. Rice, Eds. Mountain View, CA: Mayfield

Lieberman, Leonard and Larry T. Reynolds
1996 "Race: The Deconstruction of a Scientific Concept". In Race and Other Misadventures: Essays in Honor of Ashley Montagu. Pp. 142-173. Larry T. Reynolds and Leonard Lieberman, eds. Dix Hills, NY: General Hall.

Lieberman, Leonard and Patricia C. Rice
1996 "Races or Clines?" General Anthropology Division, Module # 2, American Anthropological Association.

Lieberman, Leonard, Blaine W. Stevenson and Larry T. Reynolds
1989 "Race and Anthropology: A Core Concept Without Consensus". Anthropology and Education Quarterly 20:7-73.

Lieberman, Leonard, Raymond E. Hampton, Alice L. Littlefield, and Glen Hallead.
1992 "Race in Biology and Anthropology: A Study of College Texts and Professors." Research in Science Teaching 29:301-321.

Littlefield, Alice, Leonard Lieberman, and Larry T. Reynolds
1982 "Redefining Race: The Potential Demise of a Concept". Current Anthropology 51:797-802.

Livingstone, Frank B.
1958 "Anthropological Implications of Sickle Cell Gene Distribution in West Africa". Anthropologist 30:533-562.

Livingstone, Frank B.
1962 "On the Non-existence of Human Races". Current Anthropology 3:279-281, 470.

MacClancy, Jeremy
1993 "Biological Basques, Sociologically Speaking". In Social and Biological Aspects of Ethnicity. Malcolm Chapman, Ed. Oxford: Oxford University Press.

Marks, Jonathan
1995 Human Biodiversity: Genes, Race and History. New York: Aldine de Gruyter.

Marks, Jonathan
1997 "Limits of Our Knowledge: Ability, Responses, and Responsibilities". Anthropology Newsletter 38 (February):3-5.

Mercer, Jane
1971 "I.Q.: The Lethal Label". Psychologist Today 5:44, 46-47, 95-97.

Mercer, Jane
1972 "Pluralistic Diagnosis in the Evaluation of Black and Chicano Children: A Procedure for Taking Sociocultural Variables into Account in Clinical Assessment." Paper presented at the meeting of the American Psychological Association, Washington, DC.

Montagu, Ashley
1941 "The Concept of Race in the Light of Genetics." Journal of Heredity 23:243-47.

Montagu, Ashley
1942 Man's Most Dangerous Myth: The Fallacy of Race. New York: Columbia University Press (5th edition, 1974).

Montagu, Ashley
1965 The Idea of Race. Lincoln: University of Nebraska Press.

Mukhopadhyay, Carol C. and Yolanda Moses
1997 "Restablishing "Race" in Anthropological Discourse." American Anthropologist, in press.

*Nelson, Harry, Robert Jurmain and Lynn Kilgore
1992 Essentials of Physical Anthropology. Minneapolis: West Publishing Company.

O'Brien, Stephen J. and Ernest Mayr
1991 "Bureaucratic Mischief: Recognizing Endangered Species and Subspecies." Science 251:1187-1188.

*Park, Michael Alan
1996 Biological Anthropology. Mt. View, CA: Mayfield Publishing Company.

*Relethford, John
1994 The Human Species, 2nd edition. Mountain View, CA: Mayfield.

*Relethford, John
1990 The Human Species. Mountain View, CA: Mayfield.

*Relethford, John
1997 Fundamentals of Biological Anthropology, 2nd edition. Mountain View, CA: Mayfield.

*Relethford, John
1997 The Human Species, 3rd edition. Mountain View, CA: Mayfield.,

Root, Marcia P., ed.
1992 Racially Mixed People in America. Newbury Park, CA: Sage.

Sauer, Norman
1992 "Forensic Anthropologists and the Concept of Race: If Races Don't Exist, Why are Forensic Anthropologists so Good at Identifying them"? Social Science and Medicine 304:107-111.

Scarr, Sandra and A. Pakstis, S.H. Katz, and W.B. Barker
1977 "The Absence of a Relationship Between Degree of White Ancestry and Intellectual Skills Within the Black Population." Human Genetics 39:69-86.

Smedley, Audrey
1993 Race in North America: Origin and Evolution of a Worldview. Boulder, CO: Westview Press.

Smith, Fred H., A.B. Falsett, and S.M. Donnelly
1989 "Modern Human Origins." Yearbook of Physical Anthropology 32:35-68.

Spickard, Paul R.
1989 Mixed Blood. Intermarriage and Ethnic Identity in Twentieth-Century America. Madison: University of Wisconsin Press.

*Staski, Edward and Jonathan Marks
1992 Evolutionary Anthropology: An Introduction to Physical Anthropology and Archaeology Forth Worth, TX: Harcourt Brace Jovanovich.

Stocking, George W. Jr.
1968 Race, Culture and Evolution: Essays in the History of Anthropology. New York: Free Press.

*Stein, Philip L. and Bruce M. Rowe
1996 Physical Anthropology, 6th edition. New York: McGraw-Hill.

*Stein, Philip L. And Bruce M. Rowe
1995 Physical Anthropology: The Core. New York: McGraw-Hill.

Tattersall, Ian
1997 "E Pluribus Human?" Review of Milford Wolpoff and Rachel Caspari, Race and Human

Evolution: A Fatal Attraction. New York: Simon and Schuster 1997. In Natural History 106:10-11, February.

Trinkaus, Eric
1989 The Emergence of Modern Humans: Biocultural Adaptations in the Later Pleistocene. Cambridge, UK: Cambridge University Press.

Weber, Max
1968 Economy and Society. New York:

*Weiss, Mark L. and Alan E. Mann
1990 Human Biology and Behavior. Glenview, IL: Scott, Foresman/Little, Brown.

Wolpoff, Milford H.
1989 "Multiregional Evolution: The Fossil Alternative to Eden." In P. Mellars and C.B. Stringer, eds., The Human Revolution: Behavioral and Biological Perspectives on Origins of Modern Humans. Edinburgh: Edinburgh University Press. Pp. 62-108.

Wolpoff, Milford H. and Rachel Caspari
1997 Race and Human Evolution. New York: Simon and Shuster.

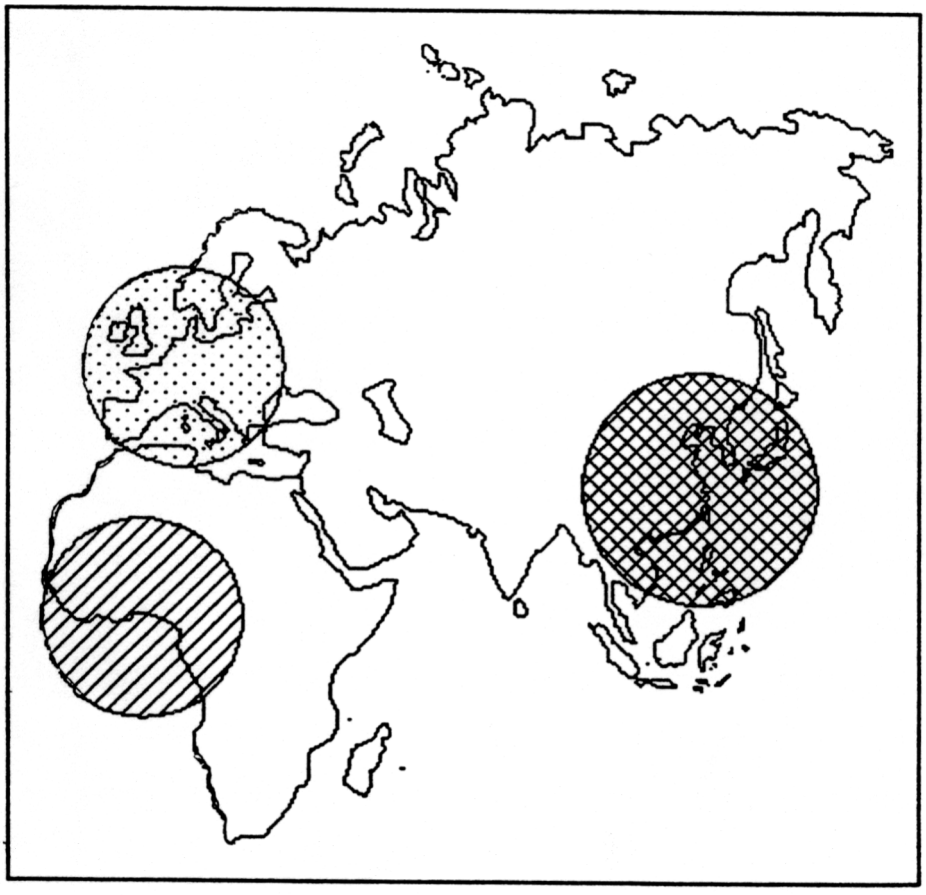

Figure 1. Major zones of migration from the Old World to America, resulting in the appearance of three discrete races.

(Figure 1, Marks 1995:158)