

But Professor, Why Teach Race Identification if Races Don't Exist?

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ABSTRACT: Although the typological race concept is obsolete in present-day systematic biology and anthropology, the idea that human populations and individuals are classifiable into separate races (Blacks, Whites, Native Americans, etc.) persists in government census data and mass media sources as well as in the forensic sciences. Determination of ancestry is a critical component of the forensic anthropologist's methodology in identification of human remains. In training students in laboratory techniques of personal identification, the paradox of the scientific rejection of the race concept and its survival in medical-legal contexts needs to be addressed explicitly. Forensic anthropologists and their colleagues in other branches of biological anthropology are best able to determine the ancestral background of an individual when they are familiar with the geographical distributions and frequencies of phenotypic traits in modern populations. Their methodology does not necessitate a racial classification based upon nonconcordant characters in order to provide evidence for positive identification of individuals.

KEYWORDS: physical anthropology, race, identification of ancestry, teaching

Determination of ancestry is a critical component of the forensic anthropologist's methodology in identification of human remains. Medical and legal agencies engaging forensic anthropologists may need to establish the "race" of an individual represented by skeletal remains or preserved soft tissues in various conditions of decomposition. This aspect of the investigation is expressed according to widely accepted classifications of Black, White, Native American, Asian or other racial categories in the course of establishing a positive identification. However, in the practice of "racial identification" the forensic scientist encounters certain challenges that may compromise results of laboratory investigations and teaching.

Some anthropologists argue that their colleagues in the forensic sciences perpetuate the debate over "race" when they attempt to determine the ancestral backgrounds of individuals represented by the skeletal remains presented to them by law enforcement agencies. This puts forensic anthropologists on the defensive. They counter that their scholarly associates do not understand forensic procedures and protocol with respect to this particular step in

a thorough laboratory analysis. Forensic anthropologists face an equally rigorous challenge when teaching the peculiarities of the race concept to students. How might one offer instruction in the methodology of ancestry identification under the shadow of misinterpretations of the race concept, as exist today in American society? How do forensic anthropologists convince their colleagues they are not racists?

The Concept of Race

A majority of biological anthropologists are aware that the traditional concept of race is defunct in systematic biology, a breakthrough achieved in the 1930s by taxonomists in ornithology and entomology and accepted thirty years later by those scientists whose subject is the evolution and biological diversity of *Homo sapiens* and our species' fossil antecedents [1,2]. Those earlier students of the birds and the bees demonstrated that classifications of populations on the basis of arbitrarily selected phenotypic characters do not reveal natural biotic entities below the level of species. Rather, all sub-specific populations are open genetics systems with full potentiality for gene flow. Nonconcordance of genetically discrete traits means that clinal patterns are distinctive for each genetic character when plotted geographically by their frequencies. Racially neutral geographical nomina have come to replace taxonomic trinomials in current studies in plant and animal systematics.

Realization of these facts by palaeoanthropologists brought the end to "racial palaeontology" which, in its heyday of the latter half of the nineteenth century and opening decades of this century, had sought to define biological affinities between living populations and specific fossil hominid specimens. No longer do we regard the Chancelade skull as the vestige of a French Eskimo [3], seek African ancestors among the skeletons in the caverns below the gambling casinos at Monte Carlo [4], or wonder if Cromagnids survive in the Canary Islands [5]. We now understand that living populations do not retain for long their ancestral phenotypic constitutions because of the relentless, continuous operation of selective and random processes which, if adaptive, enhance survival and lead to morphological and physiological changes.

Coincident with this rejection of the traditional race concept by most contemporary biological anthropologists is the persistence in modern Western thought that human races are real and that forensic anthropologists, like anyone else, can assign individuals to one of a few racial categories. This conviction is epitomized in government census records, in mass media and even in chapters of some anthropology textbooks where an author (sometimes a science writer or journalist) apprehensively admits that human races constitute a topic with conflicting interpretations, then dutifully produces a table of "major races." The myth of race survives

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¹Professor of Ecology, Anthropology, Asian Studies, Ecology and Systematics, Corson Hall, Cornell University, Ithaca, NY.

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because most people accept the fact of phenotypic diversity of our species, but assume that differences in skin pigmentation, hair form, body build, facial features, immunological variables and other arbitrary sorting criteria mark natural divisions within *Homo sapiens* which are called "races."

Forensic anthropologists are keenly aware that neither the medical examiner, the judge, the attorney client nor the sheriff would appreciate a lecture on the history of the race concept in Western thought. These professionals want to learn if the skeleton on our laboratory table is a person of Black, White, Asian or Native American ancestry, or an individual of "mixed blood." So we play their game, and however carefully our statements in the forensic anthropologist's report are phrased, we find ourselves using these racial names. Thus we perpetuate a myth that human races are natural entities within our species.

Teaching Racial Identification

But these are the least of our problems when seeking to teach the procedures of ancestry determination to students who have just listened (sometimes with disbelief or profound skepticism) to our lecture on the fall of the race concept in systematic biology. Furthermore, we are practicing "racial identification" in a scientific environment that is rightfully suspicious of typological and racist overtones, but tolerates studies of biological affinity when they are based upon genetic, molecular and biochemical methodologies. Indeed, some anthropologists hold that these approaches are superior to gross anatomical and morphometric methods. Somehow a molecule is a mantra of greater purity than a grizzled skull. A majority of forensic anthropologists would agree that non-anatomical approaches have their place in identification of an individual's ancestral background, but we have been reluctant to abandon morphometric analysis. Worse still, some of our best efforts (when confirmed by a subsequent positive identification of an individual) are based upon subjective impressions, i.e., the "eye-ball method," whatever other techniques we may employ! Thus we expose our students to a double standard of identification of ancestral background—the determination of ancestry by means of a non-taxonomic exercise based upon a familiarity with clinal distributions of phenotypic characters across geographical parameters, and also by means of a traditional race concept. Success in making accurate determinations of ancestry is achieved as a result of a practitioner's long and varied experiences with different osteological collections, a protocol difficult to teach to beginning students lacking that level of sophistication.

Forensic anthropologists face another challenge in teaching ways to identify ancestry when we attempt to demonstrate the broad spectrum of skeletal diversity and gradient distribution of phenotypic characters across geographical space. Our teaching specimens are often selected as "typical" skulls or parts of the postcranial skeleton, are casts or reproductions of actual specimens, or are derived from limited osteological collections which, by their very presence in the classroom, tend to obscure perceptions of population diversity. Some human populations are never represented in our laboratories because of inaccessibility. Few instructors of forensic anthropology are able to place on their shelves the crania of Sri Lankan Veddas, Ituri Forest pygmies of Africa, or even a Cornell professor. Not that individuals of these exotic populations are likely to turn up at a crime scene and be set upon our laboratory tables, but without a very comprehensive assemblage of modern *Homo sapiens* skeletal materials our students suffer from a limited

perception of the ranges of phenotypic variability present in populations in the modern world.

The consequence of the frantic efforts of anthropologists to shake free any associations of their discipline with racism, or the symbols and paraphernalia of earlier schools of thought, is that the concept of race, not to mention the practice of "racial" identification by forensic anthropologists, is taught in only a few American colleges and universities. It appears that in some institutions the very study of phenotypic diversity of our species is identified with racism [6].

Those who maintain that the study of human evolution and biological diversity are valid and important scientific areas for research often find themselves responding to claims of political representatives of ethnic minorities that some prehistoric fossil hominid or a skeleton removed from an archaeological site has direct biological affinities to an extant population. This situation arises when reliable documentation of exhumation is unavailable, but it also occurs in situations where it is politically expedient to identify certain human remains as the rightful property of an ethnic enclave. While present-day anthropologists have rejected the discarded tenets of "racial palaeontology," the practice has been salvaged by persons untrained in the determination of the ancestral backgrounds of human remains. Our students require some training in these matters where justice and sensibility to the attitudes of minorities are balanced with acquisitions of scientific skills requisite to the accurate identification of ancestral lineages of all peoples for purposes of forensic science as well as for throwing light on the evolution of our species [7].

Finally, in the process of freeing themselves from racial typologies and classifications, forensic anthropologists have given minimal attention to soft part anatomy, particularly with respect to cranial structures. One has the uncomfortable feeling that this is becoming an area of "lost knowledge," perhaps because the earlier studies of *partes molles* (soft tissue) anatomy were included in the package of sorting criteria assembled by our anthropological forebears who were firm believers in the reality of human races. Not all subjects falling within the scrutiny of forensic anthropologists are skeletons. Familiarity with variations of cartilaginous portions of the nose and ears, membranous tissues of the oral cavity, degree of pilosity of the face and other regions of the body, and patterns of eyebrows and hair in the aural concha are useful in identification of ancestry of individuals whose decomposition has not advanced too far to allow for these kinds of observations. How many of our students and colleagues would recognize that a male cadaver with features of heavy head hair and sparse beard and body hair, light eye color, ash-brown head hair, elevated or snubbed nasal tip with flaring alae combined with anthropometric features of mesorrhiny, mesocranium and a relatively robust body form and medium stature is likely to be a person whose direct ancestors came from the eastern Baltic region of Europe? Perhaps more attention should be given to *partes molles* anatomical structures as a significant supplement to morphometric and statistical analyses of bones and teeth.

The late Dr. J. Lawrence Angel, a stimulating teacher of human anatomy and early member of the Physical Anthropology Section in the American Academy of Forensic Sciences, developed the concept of "morphotypes" which were constituted from the variables of skeletal and *partes molles* anatomy. Angel set this concept at a great distance from the rigid, unmodifiable protocol of racial identification within the paradigm of the race concept. Rather, he saw morphotypes as abstract concepts useful in defining physical characters occurring in high frequencies in certain populations, or infrequent or absent in others. That is, Angel's morphological

groups were tools, not biological entities, for the forensic anthropologist, but his colleagues were unwilling to adopt this approach given a misdirected prejudice against anything resembling outdated racial typology. The fact that Angel referred to morphotypes by use of a nomenclature that had been invented within the dynamics of an earlier racial anthropology did not encourage an acceptance of his methodology. This issue is raised here not for the purpose of reviving morphotypology, but to illustrate that certain useful techniques in the determination of ancestry of individuals in the course of a forensic anthropology investigation may be overlooked on account of biases associated with them [8].

Discussion

Are there solutions to the several problems of teaching ancestry identification which have been raised in this paper? How do forensic anthropologists convince their colleagues and students they are not racists?

First, we can begin our instruction with a survey of the historical development of the race concept, noting the significance of the pioneering efforts of our colleagues in ornithology and entomology in the earlier part of this century and the fall of the race concept in systematic biology and anthropology in recent decades. At the same time students must be exposed to a broad selection of scientific books and articles which demonstrate that there are significant differences among anthropologists (including forensic anthropologists) about the "race issue." No single view of the race concept is universally accepted, although a trend towards the weakening of traditional typological classification of populations as distinctive "races" is perceived by some authors [9,10].

A subsequent step is familiarizing our students with the ranges of variation of a broad spectrum of phenotypic characters within the human species. This is not an easy task, given the fact that the most ubiquitous collections of modern human skeletal series available in American teaching institutions are those purchased from anatomical supply houses which have, until recently, been supplied from India. And even with these skeletons the bones and teeth of the same individual are not assembled together in most cases since dealers wish to offer their customers specimens that appear to be complete. Another source for American students comes from archaeological collections of Native American sites and from the Terry and Todd Collections comprised of individuals with a high incidence of mixed African and European ancestry.

Class field trips to osteological collections would assist our students to gain a greater appreciation of phenotypic variability, but ultimately we all attain more accurate identifications of ancestral backgrounds by extended periods of research with collections from some part of the world. I feel fairly confident in ancestry identification of human skeletal remains from southern Asia, even placing skeletal and living subjects within geographical sectors of the Indian subcontinent and Sri Lanka, because I have conducted research in the context of palaeodemographic studies in this part of the world over many years; I am less confident in my ability to do the same with skeletons from other parts of the globe. If faced with this charge, I might require the expertise of my colleagues who have conducted extensive research in the skeletal biology of those regions. Students who have opportunities to explore osteological collections from different geographical localities will have the advantage over their classmates in deciding when a supraorbital torus is absent, a trace, small, medium, pronounced or very pronounced in its development—a difficult lesson to get across with slides or casts during a lecture-demonstration. This practical exer-

cise will not make them experts overnight, but it will build confidence in discriminating trait expressions and clinal distributions of characters useful in identifying ancestral backgrounds.

Within the past few years specific studies of ancestry identification have been published [9–11], and reports of seminars at regional forensic anthropology organizations in the western, southeast and northeastern states contribute to a growing scientific literature on the subject. Students need to be thoroughly familiar with these published sources, not simply acquire a few pointers about human diversity in the laboratory setting.

Another pedagogical message is that ancestry identification is never a question of inventing a more refined classification of humankind on the basis of selected biological characters, but is a justifiable scientific endeavor established upon a reality of clinal, nonconcordant and independent phenotypic features, of which many are discrete traits under genetic control, which are geographically diffused so that a tally of trait frequencies can serve as powerful indicators of the gene pools of individuals we seek to identify in a forensic anthropology investigation.

Yes, human "races" are realities to our clients and to the general public. If one can observe differences in skin and eye pigmentation, facial structures, body build and hair form, does this not mean that races exist? Indeed, the reality of phenotypic diversity is held to be a proof of the existence of races. Therefore, it may be a sound heuristic approach to find parallels to this apparent paradox of the decline of the biological race concept and our procedures for identification of ancestry by asking our students to find some other scientific examples. Thus "race relations" are real socio-political issues, however race may be interpreted by social scientists or historians. On the other hand, astronomers retain classical names for the planets without venerating the Greek and Roman deities for whom they are named. Biologists refer to "lower and higher organisms" without supporting a concept of a chain of being. Taxonomic nomenclature is rife with Greek and Latin components which do not describe in any accurate way their subjects, e.g., *Pseudoloris*, *Amphipithecus*, *Adapis*, etc. And we all speak of the rising and setting sun when the sun does nothing of the kind. Human diversity finds a parallel with these perceptions, for there is no question that we see phenotypic diversity, but there are those in the community of forensic anthropologists who would argue that it is invalid to conclude that this diversity constitutes a reality called "race."

The teaching of ancestry identification in our classrooms and laboratories should offer our students more than technological skills. Perhaps our efforts will help to demythologize the claim that the scientific study of human diversity is essentially a racist activity. Even better, we might get across the lesson that biological diversity is the record of successful adaptations in different populations, for those populations unable to meet the challenges of the natural and cultural environments are no longer with us. Therefore, human equality is self-evident in our celebration of biological and cultural diversity. Unfortunately, these scientifically meritorious efforts have yet to modify popular notions of "race," even within the forensic sciences where elements of traditional typological nomenclature survive.

Conclusions

Determination of the ancestry of an unidentified skeleton or decomposed body is an integral part of a forensic anthropological investigation along with efforts to determine if the remains are human or non-human, are commingled with remains of other indi-

viduals or representative of a single subject, and the determination of the sex of the individual, age at time of death, reconstruction of body form and estimation of stature during life, observation of markers of pathology and trauma, modifications of skeletal and preserved soft part tissues related to occupational or habitual stress, and any evidence that might relate to manner of death and time elapsed since death. In conducting an analysis of ancestral background, the forensic anthropologist examines those phenotypic traits recognized as having varying frequencies within human populations in different parts of the world. Although these physical characters are not genetically linked to form trait clusters, their appearance in certain sectors of our species' geographical range may occur where clinal patterns of genetically independent traits overlap. Knowledge of the frequencies and distributions of these physical characters allows the experienced forensic investigator to decide if the immediate forebears of an unidentified individual came from Europe, Asia, Africa, the Americas, Oceania or other broad geographical areas, with the possibility that even finer determinations of ancestry can be made within these zones of human settlement.

Although this aspect of the protocol of the forensic anthropologist's methodology does not involve a classification of human subjects into races, the concept of race survives in government census reports and medical-legal sources to the degree that only the identification of a subject as Black, White, Native American, etc. will have meaning for most members of society, as well as for other forensic scientists who seek the services of anthropological experts. In America today the term "race" is employed to categorize people according to how they are regarded during life. Within this loose classification phenotypic expressions play a part. Other systems that appear to be racial classifications occur in non-Western cultures, as in modern India where caste is highly significant in social organization, yet fair skin pigmentation is deemed preferable to dark skin pigmentation. This is demonstrated in newspaper advertisements placed by families in search of prospective marital partners for sons and daughters where caste status may be waived as a matter "of no consideration" but attention is given to the "wheat-colored hue" of an offspring's complexion. Since it does not seem feasible for the forensic anthropologist to refuse to recognize the existence of an obsolete concept of human evolution and diversity in the course of an investigation in which prompt identification of an individual is desirable, the result is that a scientifically invalid classification of human "races" continues to be cited in laboratory records by scientists who know that the

traditional concept of human races and their classification has been abandoned by other biological anthropologists and their colleagues in the biological sciences.

In training students of forensic anthropology it is essential that they appreciate the paradox of how a scientific approach to the study of human evolution and biological diversity co-exists with a non-scientific belief in the existence of human "races" in the context of determining ancestry in a forensic anthropological investigation and reporting the results of the study in records submitted to clients from medical-legal agencies. Successful teaching of ancestry determination depends upon accessibility of human osteological collections from different parts of the world in order that ranges of phenotypic variation may be observed and the geographical diffusion of specific phenotypic characters as separate clinal patterns be demonstrated.

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Address requests for reprints or additional information to
 Kenneth A. R. Kennedy, Ph.D., D-ABFA
 Ecology and Systematics
 Corson Hall, Cornell University
 Ithaca, NY 14853