


Medicine, Beatrice, with Sue-Ellen Jacobs, ed. 2001. Learning to Be an Anthropologist and Remaining “Native.” Champaign: University of Illinois Press.


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ANTHROPOLOGY, APPLIED

SEE Anthropology, Public.

ANTHROPOLOGY, BIOLOGICAL

Biological anthropology is concerned with the origin, evolution and diversity of humankind. The field was called physical anthropology until the late twentieth century, reflecting the field’s primary concern with cataloging anatomical differences among human and primate groups. Under the name of biological anthropology, it is an ever-broadening field that encompasses the study of: human biological variation; evolutionary theory; human origins and evolution; early human migration; human ecology; the evolution of human behavior; paleoanthropology; anatomy; locomotion; osteology (the study of skeletal material); dental anthropology; forensics; medical anthropology, including the patterns and history of disease; primatology (the study of non-human primates); growth, development and nutrition; and other related fields.

The kinds of questions that biological anthropologists ask include:

• What makes humans different from other species?
• Where did modern humans arise and when?
• What does evidence show about the original human migrations throughout the world?
• What kinds of biological differences exist between populations, including anatomical, genetic, and behavioral, or patterns of growth and

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development, and how did the biological differences arise?

What can we learn about human evolution and behavior from non-human primates or other species?

How did uniquely human traits such as bipedalism and language evolve?

What can molecular genetics add to the understanding of evolution and human variation?

How does normal development happen, and what can it contribute to knowledge about evolution?

METHODS

Biological anthropology has a rich collection of methods, new and old, for answering these questions. Methods used include: field methods for finding specimens; comparative anatomy and morphological measurement; fossil analysis; population genetics; demographic and epidemiologic methods; and the use of model animals such as mice or non-human primates. Modern technologies—computed tomography (CT) scanning, molecular genetic and bioinformatic analytic techniques—are used to address questions about human diversity with studies of DNA variation and its history, for example. Tiny details of bones and fossils can be visualized and compared with high-powered imaging techniques to yield clues about the evolution of various traits.

In the late twentieth century, the largest change in biological anthropology has been the rapid incorporation of modern genetics. There are genetics laboratories in anthropology departments around the world, working on a wide variety of questions concerning human origins and diversity. Anthropologists also collaborate with non-anthropologists who have expertise in a broad spectrum of technical fields in order to use a wide variety of methodologies in their research.

HISTORY

Although people have been interested for several millennia in characterizing how populations differ, the work of Swedish botanist Carolus Linnaeus (1707–1778) cataloging all known species was the first modern systematic classification of human variation. Linnaeus developed the binomial naming convention (Homo sapiens, for example) still used today. He classified humans into groups based on geographic origin and skin color, and subsequently on behavior. Probably not surprisingly, Europeans ranked highest in Linnaeus’s schemes.

A number of people worked on cataloging human variation in the eighteenth and nineteenth centuries, including Georges Buffon (1707–1788, who published Varieties of the Human Species in 1749), Jean-Baptiste Lamarck (1744–1829), and Georges Cuvier (1769–1832). Johann Friedrich Blumenbach (1752–1840) is often considered the founder of physical anthropology. Inspired by Linnaeus, Blumenbach was interested in documenting the anatomical differences among humans, establishing the field of comparative anatomy to do so. He published On the Natural Variety of Mankind in 1795, in which he proposed five distinct races.

Blumenbach’s grouping became the basis of the scientific classification system for race, which was developed and expanded in the nineteenth and twentieth centuries. But, as Darwin pointed out in The Descent of Man, race is a slippery concept. The number of races catalogued in Darwin’s day alone ranged from two to sixty-three. In modern time, race as a useful biological concept is largely considered by anthropologists to be without scientific merit. By any biological measure, even human groups long isolated geographically are more similar than they are different. Yet race is an issue that will not go away because the concept of race is as much political and social as it is biological.

Although in the twenty-first century biological anthropology is thoroughly grounded in the study of human diversity, nineteenth century biological (physical) anthropologists were preoccupied with such questions as whether humans were part of the natural world, or more than one species. Darwin’s theory of evolution, first published in 1859 in The Origin of Species, gave biological anthropology a conceptual framework. Old questions were immediately resolvable; evolutionary theory confirms that humans are part of the natural world and share a common origin with every other species on Earth. Other questions were not resolvable. For example, the question of how many species humans comprise became a question of how many races, and this question preoccupied anthropologists, along with human geneticists, for decades.

Homo sapiens (modern human) is the only surviving species of those that comprised the 1.5 to 2.5 million year old Homo lineage. Paleontologists still debate what extinct species should be considered Homo (based on fossil evidence), or the extent to which there were contemporary Homo species alive during the approximately 2 million years of hominid history. If Homo sapiens and Homo neanderthalensis (a Homo species, commonly known as Neanderthal, that lived in Europe and parts of western Asia from about 130,000 to 24,000 years ago, now extinct) were contemporaneous 30,000 and more years ago, for example, did they interbreed? Some anthropologists believe that the tools of modern molecular genetics may help answer this question. The 2003 finding of 12,000-year-old fossils of apparently small people in a cave on the Indonesian island of Flores, Homo floresiensis
(Man of Flores), raises the question of whether other Homo species were alive until even more recently than Neanderthals. This issue will be debated for some time to come. Whatever the question of interest to contemporary biological anthropologists, from comparisons between species to the origins of human traits, biological anthropologists will continue to couch questions within the framework of evolutionary theory.

SEE ALSO Anthropology; Anthropology, Medical; Archaeology; Burial Grounds; Darwin, Charles; Disease; Genomics; Leakey, Richard; Natural Selection; Primates; Race; Racial Classification; Racism

BIBLIOGRAPHY


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ANTHROPOLOGY, BRITISH

A. R. Radcliffe-Brown once said that anthropology has two beginnings: the first in 1748 and the second around 1870. For British anthropology, one could add a third beginning, around 1922, when both Radcliffe-Brown and Bronislaw Malinowski began teaching in earnest and published their major field monographs. Radcliffe-Brown's first date, 1748, marks the first publication, in French, of Montesquieu's Spirit of the Laws. Within two years an English edition appeared, and this greatly influenced the anthropological ideas of Scottish writers such as Adam Smith. His anthropological approach, modeled on Montesquieu's, became known as "conjectural history." The idea was that speculation and logical deduction, often supplemented by knowledge from early ethnographic reports, should lead us to understand the early history of society.

Institutional anthropology in Britain began in 1843 with the founding of the Ethnological Society of London, which merged with a rival society in 1871 to become the Anthropological Institute. Major publications around that time include Sir Henry Maine's Ancient Law (published in 1861), J. F. McLennan’s Primitive Marriage (1865), and Sir Edward Tylor's Primitive Culture (1871). Maine's book overturned the Enlightenment notion of the "social contract" in favor of the family as the basis of society, and it also created the study of kinship as the central interest of the British tradition. One early debate centered on which came first, patrilineal or matrilineal descent? Maine favored the former, while McLennan favored the latter. Tylor's contribution included his famous definition of culture as "that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society" ([1871] 1958, p. 1).

Polish immigrant Bronislaw Malinowski began teaching at the London School of Economics in 1922, the year of publication of his Argonauts of the Western Pacific. That book describes the inhabitants of the Trobriand Islands, where Malinowski spent World War I and where he created the modern style of anthropological fieldwork (working in the native language and through participating in as well as observing daily activities of the people). Meanwhile, Radcliffe-Brown had the year before obtained a professorship at the University of Cape Town. He later moved to Sydney and to Chicago before returning to Britain to take a chair at Oxford University. His major monograph, also published in 1922, was The Andaman Islanders. Together Malinowski and Radcliffe-Brown came to emphasize contemporary society over social evolution. Malinowski called this new approach "functionalism," and the idea was to see how each aspect of society related to other aspects. Radcliffe-Brown shied away from the word, but what others called his "structural-functionalism" emphasized further the relations between institutions in social systems, the classic four systems being kinship, politics, economics, and religion. He published his collected essays as Structure and Function in Primitive Society in 1952, and his theoretical approach (borrowed partly from Émile Durkheim's sociology) together with Malinowski's fieldwork methods became the twin hallmarks of the British tradition. These two men trained the first generation of professional anthropologists (most of the earlier ones having been amateur scholars), and established British anthropology as a great world tradition and the idea of the departmental seminar as the main means of teaching graduate students.