found among the Indians at the time of first recorded contact with Europeans, or that various groups had possessed in the past and that were modified or lost at various times and places over the centuries. Were such developed traits as pottery making, agriculture, metallurgy, irrigation, and sculptural art produced indigenously from a simple Stone Age base, such as was presumably possessed by the various Bering Strait immigrants, or were they the result of direct contacts with more civilized peoples of Asia or other parts of the Old World? How long has man been in the New World? It is now firmly established that human history in America goes back some 12,000 years, but the evidence beyond that is still inconclusive. Many archeologists are willing to admit a probability that human prehistory in America will eventually be extended backward to 40,000 years or more, but convincing evidence is still lacking.

These are problems which have long furnished fuel for controversy and none of which are simple of solution. Although progress is being made, largely by the archeologist enlisting the services of such disciplines as geology, physics, botany, chemistry, and biology, much remains to be done.

The writer of an overall history must consider all these problems, and Willey has done so most ably and carefully. In addition to presenting the firmly established data he has not avoided the debatable subjects, but has presented the evidence on both sides, always being careful to distinguish between proven facts and matters that are still speculative. The book is copiously illustrated with 250 photographs, more than 140 drawings, and 45 specially prepared maps and charts to guide the reader through the maze of cultural and geographic areas and time periods. It is by far the best work that has appeared on the broad subject of American prehistory, and one can assume that volume 2, which will deal with South America, will be of the same quality. This is the first time that a satisfactory approach has been designed for this complex subject. The book will for a long time be an indispensable text for the student and the interested lay reader, as well as a guide for the professional.

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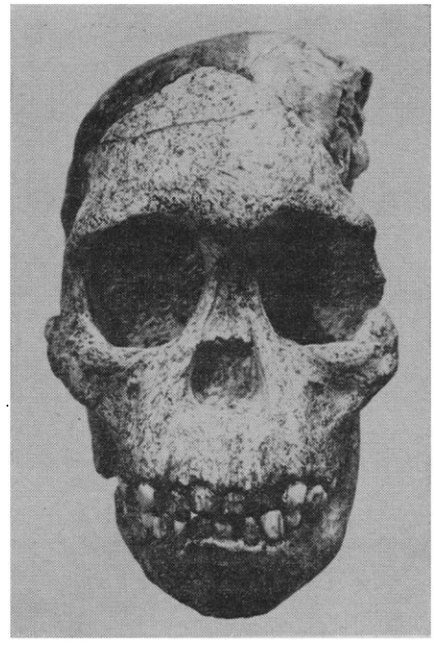
Hominid Evolution

Man-Apes or Ape-Men? The Story of Discoveries in Africa. WILFRID E. LE GROS CLARK. Holt, Rinehart and Winston, New York, 1967. 160 pp., illus. $3.95.

This little book is a welcome addition to the voluminous literature already published about the australopithecines, those important and controversial fossil relatives of man found at a number of localities in Africa from 1924 onward. The author is not only a distinguished anatomist and physical anthropologist but also one of the relatively few qualified individuals who have been able to study, at first hand, many of the relevant specimens. His views therefore merit close consideration.

After a brief opening chapter that deals largely with man's relationship to the anthropoid apes, Sir Wilfrid presents an interesting historical account of the discoveries of australopithecines, including therein some details of his first visit to South Africa, in 1947. The remainder of the book is devoted chiefly to his interpretations of the teeth, skull, pelvis, and limb bones of the australopithecines. In the two final chapters, the author attempts to reconstruct some aspects of australopithecine ecology and evolutionary origins.



Immature skull of *Australopithecus africanus* found at Taung, South Africa, in 1924. This was the first skull of this fossil relative of man to be discovered. [Courtesy of Raymond A. Dart, from *Man-Apes or Ape-Men?*]

Sir Wilfrid is thoroughly convinced that the australopithecines were directly ancestral to the genus *Homo*, rather than a sideline of hominid evolution which paralleled that of, but did not develop into, actual man. In this he is in agreement with current orthodox belief; although, it should be emphasized, there are some notable heretics. He does not, however, include the australopithecines in the genus *Homo*, as has been done by a few writers. Rather, he places them in the genus *Australopithecus*, recognizing two species, *A. africanus* and *A. robustus*. He thinks it probable that the former, more gracile type was ancestral to *Homo*, and that the latter, more robust type was "an aberrant sideline of evolution that became extinct." Indeed, the author regards the australopithecines as representing the first stage of hominid evolution after the family Hominidae diverged from an ancestral stock common to it and the anthropoid apes. Hence he seems to have no doubts that they were the "immediate precursors" of *Homo erectus*.

Consequently, Sir Wilfrid devotes considerable space to an attempt to demolish the claims of "Telanthropus" (assigned by John Robinson to *Homo erectus* in 1961) and, especially, "Homo habilis" to membership in the genus *Homo*. These highly controversial fossils were found associated with undoubted australopithecine remains at Swartkrans, South Africa ("Telanthropus"), and, recently, at Olduvai Gorge, Tanzania ("Homo habilis"). "Telanthropus" consists only of some fragmentary jaws, and consequently can more readily be dismissed. "Homo habilis," however, comprises not only jaws but also much of a braincase, as well as various limb bones, including the better part of a foot. If these specimens belong to an actual member of the genus *Homo*, it is more than difficult, as Tobias [*Science* **149**, 22 (1965)] has noted, to make the australopithecines the direct ancestors of man. It is true that Sir Wilfrid is by no means alone in regarding both "Telanthropus" and "Homo habilis" as varieties of australopithecines (more specifically, of *Australopithecus africanus*, he believes), rather than as hominines. In this respect, however, he is no more persuasive than those who regard these two fossils as actual men. He finds it "difficult to suppose that australopithecines and more advanced hominids (pre-

sumed to be representatives of the genus *Homo*) existed side by side in the same environment one and three-quarter million years ago, and still continued to live side by side about half a million years ago (as some have supposed to be the case in South Africa)." This argument certainly has merit, provided that the absolute dates assigned to these two regional groups of fossil hominids are reasonably accurate. These dates, particularly those attributed to the Olduvai fossils, are currently in dispute, however. Thus Sir Wilfrid's analysis of "Homo habilis" does not clarify the taxonomic status of this intriguing fossil, which remains in doubt. One can only hope that more specimens will be uncovered.

This stimulating book embraces more aspects of the australopithecine problem than can be covered in this review. Many of its arguments are provocative even when one does not agree with them. I can recommend it highly to all students of human evolution.

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Exotic Journeys

First Footsteps in East Africa. SIR RICHARD BURTON. Edited with an introduction and additional chapters by GORDON WATERFIELD. Praeger, New York, 1966. 334 pp., illus. $10.

A Mission to Gelele, King of Dahome. SIR RICHARD BURTON. Edited with an introduction and notes by C. W. NEWBURY. Praeger, New York, 1966. 382 pp., illus. $10.

In 1854, fresh from his pilgrimage in disguise to Mecca, Richard Burton set out across the Somali desert to Harrar, a city forbidden to Europeans in what is now Ethiopia, as a first step in the search for the sources of the Nile. The expedition ended in bloodshed, confirmed the Establishment's distrust of Burton, and resulted in a book, *First Footsteps in East Africa*, that remains among the best descriptions of Somali society. In the next seven years, Burton fought in Crimea, explored in East Africa, and visited the Mormons at Salt Lake. From 1861 to 1864, as consul for West Africa, he climbed Cameroon Mountain, looked for gorillas in Gabon, visited the Congo, surveyed the economy of the Niger delta, studied local languages, and led a mission to the king of Dahomey, whom Britain hoped to persuade to give up the slave trade. This mission failed, but Burton's report became an anthropological and historical classic. These two books (Burton wrote some 40) are now once again available, and their editors have set a standard for reprints (of which there is a rising flood) of early African sources.

A superb practical linguist and a conscious practitioner of what later came to be called "participant observation," Burton had a genius for the meticulous reporting of the significant (even if not always understood) detail. In his description of the Dahomean court, for example, the modern anthropologist is given, as if cinematically, the living expressions of cultural complexes that he recognizes and can interpret but can never hope to see acted out at present. In an age when it was easy to see Dahomey as a mere "barbarian despotism," Burton saw the delicate checks and balances in it. He antedates professional anthropology by a good half-century in his understanding the segmented stateless politics of the Somalis as more than shapeless anarchy.

In what would now be called high-level theory, Burton is very much an intellectual of his time. His weakness, in Newbury's summation, "was to use his remarkable range of information to confirm . . . his sense of cultural superiority as a European." But the judgment condemns the age, not the complex man. A 19th-century racist, Burton felt most at home among Indians and Arabs and Somalis, railed publicly against the Army color bar, and was dubbed "white nigger" by his fellow officers. A convinced imperialist, he made enemies of the East India Company and the Colonial Office. An advocate of trade, he despised traders. If he had any religion at all, it was Islam; but he married a devout Catholic and enjoyed shocking society with his open interest in sexual customs. Had Burton been wealthy, he might have been one of the eccentrics in which the century abounded. As it was, the paradoxes he embodied had to be played out by a servant of the Establishment that barely tolerated him. Burton reciprocated by baiting it and, fortunately for us, by scholarly malingering. That he failed to close the gap between his theories and his observations and actions is a measure of his greatness. He did not entirely transcend the world view of his times but, unlike lesser contemporaries, he did not bend his perceptions to it.

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Turkistan. Notes of a Journey in Russian Turkistan, Kokand, Bukhara and Kuldja. EUGENE SCHUYLER. An abridgement of the 1876 edition, edited with an introduction by GEOFFREY WHEELER. Praeger, New York, 1966. 341 pp., illus. $10.

As American consul general in St. Petersburg Eugene Schuyler in 1873 had the opportunity to take a journey to Central Asia. *Turkistan,* the result of eight months of travel and careful observation, was the first book to deal comprehensively with this relatively unknown region. Precious little has been written on the area since.

The purpose of Schuyler's journey in Central Asia was to study the "political and social condition of the regions which had only six years previously been annexed by Russia, and to compare the state of the inhabitants under Russian rule with that of those still living under the rule of the Khans." Schuyler's chapters detail all aspects of urban social life from Islamic patterns of ritual, to sanitation, entertainment, bazaars and trade, and local government. It is an important book for understanding the peoples of Central Asia, an area which today supplies 80 percent of Russia's cotton needs.

An introduction by the editor enhances this abridged edition. Wheeler summarizes the history of the Russian conquest from 1730 when the Russians first appeared in Turkistan, a vast, uncultivated countryside, sparsely populated by nomads and sedentary people. Although this edition includes most of the original chapters dealing with Schuyler's impression of the country and its peoples, Wheeler leaves out Schuyler's most interesting chapter on Russian administration and policies in the area. It was, however, through the editor's introduction that I was drawn to read the original edition. Wheeler compares the Russian system of colonial administration in Turkistan with the British colonial administration in India, indicating that both regimes were fundamentally imperialistic. He draws attention to the essentially mili-