A Critique of "The Origin of Races" by C.S. Coon. *

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In this book Dr. Coon has applied the principles of biological taxonomy, zoogeography, and paleontology to the problem of the origin of subspecific variations in *Homo sapiens*. This has been long overdue in Physical Anthropology where evolutionary studies of the subspecies have been much neglected and taxonomic theory largely ignored. The late Franz Weidenreich had long maintained that the polytypic and polymorphic forms of *Homo sapiens* had a considerable antiquity going back to Pithecanthropus and Sinanthropus (1946). Coon has made an exhaustive study of the literature and specimens to support this thesis.

In Chapter 1 "Problems of Racial Origins" he treats the problems of systematics, taxonomy and speciation. Chapter 2, entitled "Evolution Through Environmental Adaptation", concerns itself with racial morphological diversity in relation to heat, cold and humidity. Chapter 3 deals with the factors of sexual and cultural selection, Chapters 4 and 5 treat the problems of primate systematics and Chapters 6 and 7 provide a very interesting and detailed exposition of primate palaeontology up to the Australopithecines. Chapter 8 "An Introduction to Fossil Man" is a discussion of the distribution and morphology of the higher hominids in time and space.

This brings us up to page 371 which is more than half the book. In Chapters 9, 10, 11, and 12 Coon presents his argument in favor of polyphyletic origins of the races of mankind. The Australoids are derived from Pithecanthropus, the Mongoloids from Sinanthropus, the Caucasoids from *Homo heidelbergensis,* and

* The Origin of Races. C.S. Coon. New York, A.A. Knopf, 1963. xli-724-xxi pp., 32 pl., 84 drawings, 13 maps, 39 tables.

the Negroes from Rhodesian man. Chapter 13 called "The Dead and the Living" puts forward some interesting methodological thoughts which shall be discussed in detail below.

Coon has adopted and adapted Mayr's (1950) revision of the Hominidae, although he maintains the Australopithecinae as a separate subfamily. The Pithecanthropus group is elevated to the taxonomic level of *Homo erectus* as Mayr has suggested and the European Neanderthals are lumped with Upper Paleolithic *Homo sapiens* into one group. Solo man and Rhodesian man are lumped with the *erectus* group on the basis of cranial morphology.

The modern races of man — the Australoids, the Mongoloids, the Caucasoids, the Congoids (Negroes), the Capoids (Bushman Hottentot) — are all derived from their separate Archanthropic ancestors along the lines of Weidenreich's thesis (1946).

It is inevitable that in a large synthetic work of this kind there will be mistakes. It would be petty to enumerate small errors of detail since the enormous labors of collation, compilation and integration could exhaust the energies of ten men, if not one man. It might be maintained that the realization of such a book is beyond the abilities of any single man at present and Coon deserves praise for his courage and industry in tackling such a formidable task.

There is however, a second category of error in this book which has to do with the perpetuation of past errors of interpretation. This involves Coon's uncritical acceptance of Leakey's insistence that the Upper Palaeolithic, Mesolithic, and Neolithic skeletal material from East Africa do not show any Negroid affinities. It might be useful to review some of the evidence presented by Leakey (1935, 1942, 1945, 1950).

In the years 1926-1929 Leakey found the remains of five skeletons in Gambles Cave II Elmenteita, Kenya. The first three were in very poor condition and little could be reclaimed for study. The remaining two (No. 4 and 5) skeletons were in somewhat better condition and were found in association with Upper Kenya Aurignacian (Kenya Capsian) cultural items.

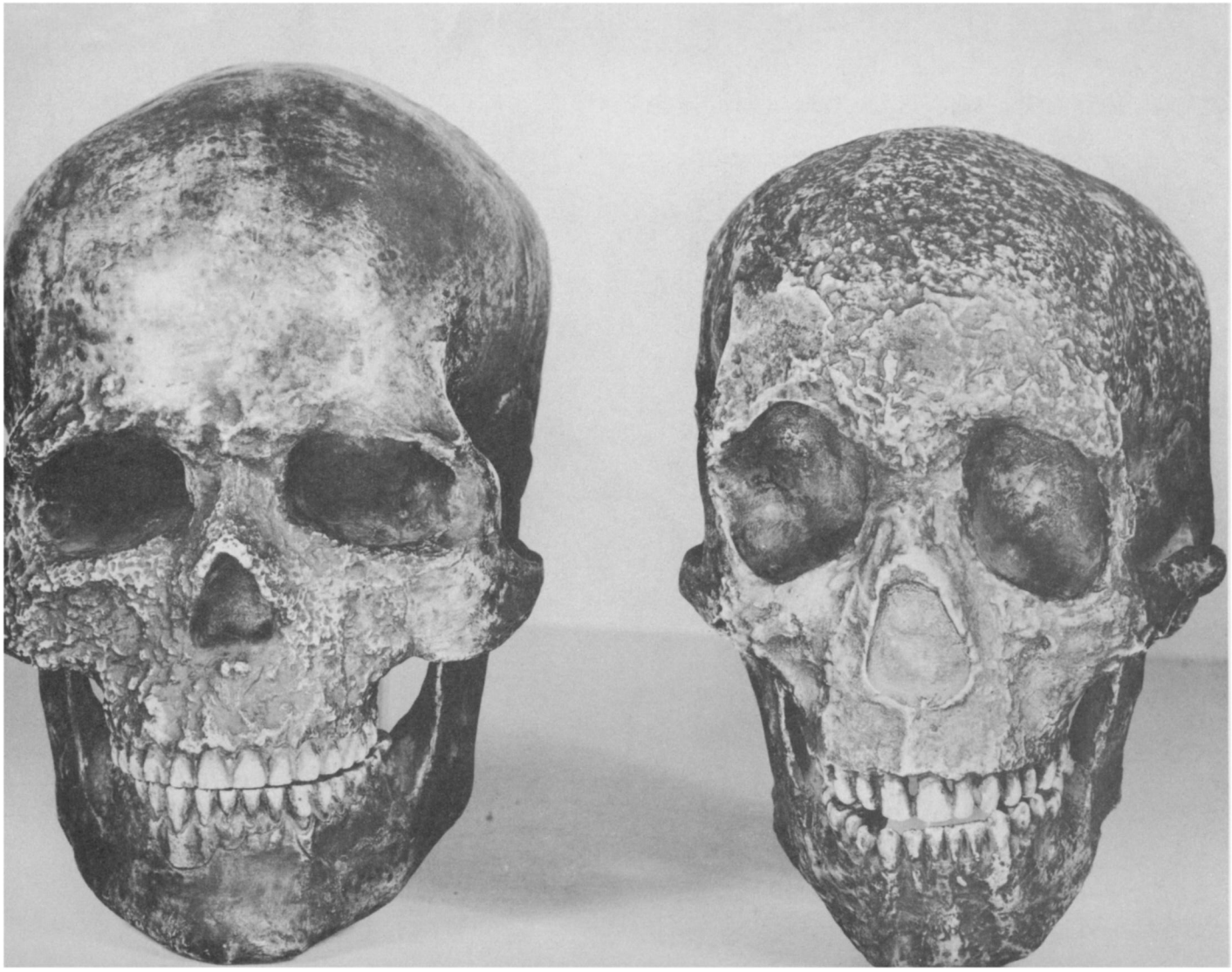

PLATE 1.

FRONTAL VIEW:

left,

Cro-Magnon man;

right,

Gambles Cave II,

no. 4.

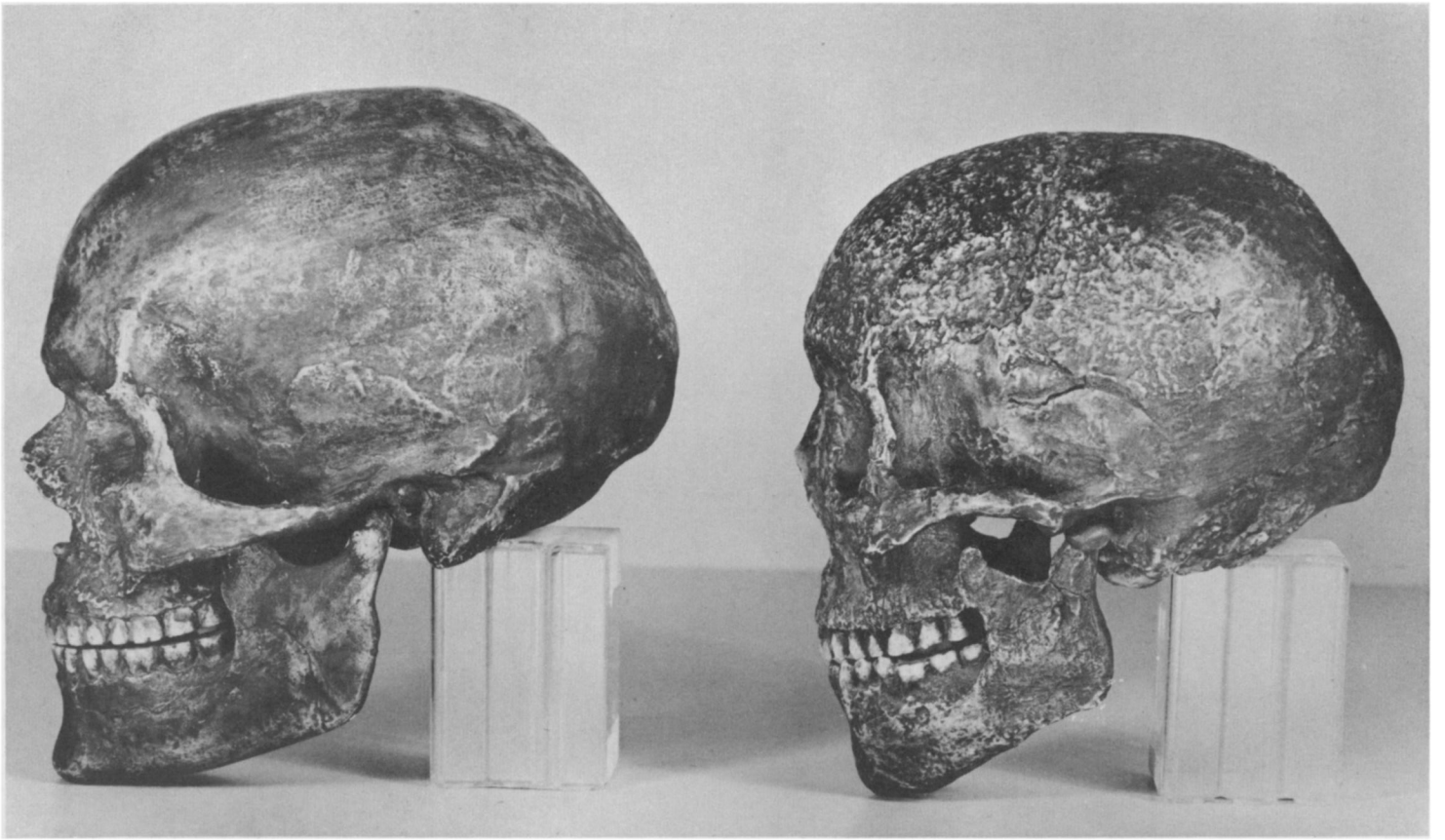

PLATE 2. LATERAL VIEW: *left,* Cro-Magnon man; *right,* Gambles Cave II, no. 4.

PLATE 3. BASAL VIEW: *left,* Cro-Magnon man; *right,* Gambles Cave II, no. 4.

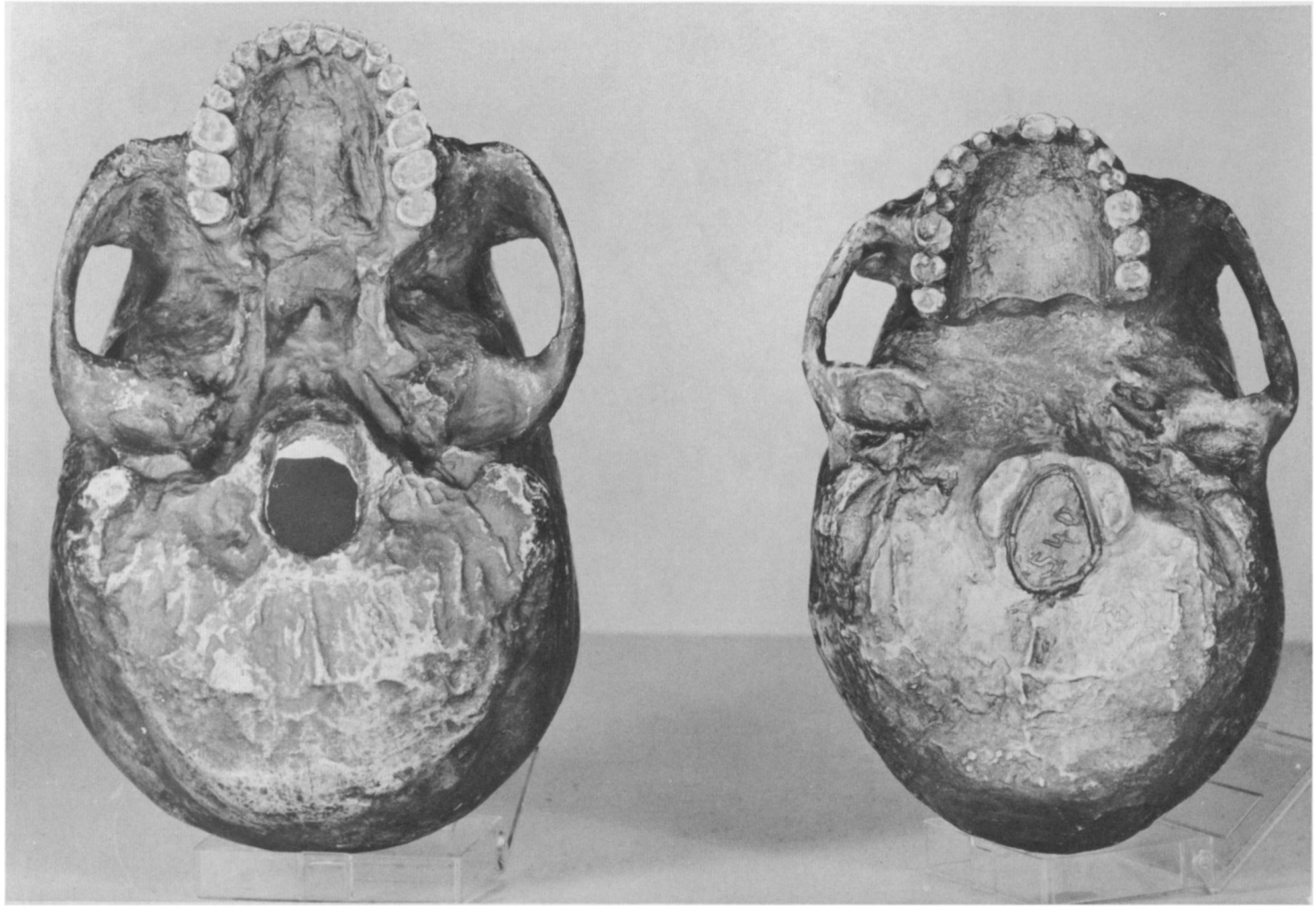

PLATE 4. BASAL VIEW: Gambles Cave II, no. 4.

Leakey has claimed that these two skeletons show affinities with European Upper Palaeolithic man rather than the Negro branch of *Homo sapiens*. He also states that the Oldoway and Naivasha skulls as well as the skeletal remains from the Mesolithic Bromhead site of Elmenteita *do not* show Negro features. In the case of Gambles Cave II, No. 4 skull shows lateral compression which has distorted the shape of orbits, the left zygomatic arch is twice as long as the right one, the basic occipital region is displaced to the left, the cranio-facial juncture has been crushed toward the rear of the neuro-cranium on the right side causing the short right zygomatic arch. The same pressure from the front of the skull has caused the alveolar region to be flattened and the palate to be deepened. Skull No. 5 is deficient in the nasal and frontal alveolar regions. The Naivasha skull is fragmentary and the Oldoway skull shows extreme lateral compression. The measurements given for these last African Upper Palaeolithic skulls and their morphological features cannot be precise enough to warrant any statements as to their racial affinities, be they Caucasoid, Negroid or European Upper Palaeolithic. In the case of the skeletal remains of 26 individuals from the Bromhead site, the skull Elementeita A shows marked alveolar prognathism, an alveolar profile angle of 65.4 which is well within the Negro range, and a nasal breadth of 29 mm. Leakey maintains that the occipital index is the chief diagnostic character in Negro-Caucasoid comparisons and that since this index is 56.1 it is too low to be in the Negro range. However, the range of this index is practically the same for whites and Negroes as Tobias (1958, 1959) has shown and for this reason it is of little use here.

The condition of the Upper Palaeolithic *Homo sapiens* specimens from East Africa is too poor to warrant racial analysis. The Mesolithic material shows definite Negro affinities.

Coon has also accepted the dictum of Mansuy and Colani (1925) that certain skulls of the Neolithic of Indo-China are Australoid and Melanesian. The photographs of these skulls in the works of these authors show anterior projection of the zygomaxillary tuberosity and low nasal roots, thus incorporating the typical complex of Mongoloid facial flatness. Since, however,

prognathism and sagittal keel overlap considerably among Australoids, Melanesians and Mongoloids, these characters chosen by the above authors to distinguish between these groups are of very little diagnostic value.

It is regrettable that there are no photographic reproductions of the East African prehistoric *Homo sapiens* skulls or of those from Indo-China or China. They would have helped to clarify matters.

Coon refers to Pithecanthropus as Australoid, Sinanthropus as Mongoloid, Rhodesian man as Negroid, and the Mauer jaw as Caucasoid. This is somewhat confusing since most of these specimens belong to different species and as such should have different subspecific names than those of the modern subspecies or races (Mayr 1950).

In the discussion of race mixture Coon states on page 656 that "Because hybrids tend to return to one of their parental stocks no valid subspecies can arise through mixture." On page 662 he asserts that "We would all be light khaki [...] had it not been advantageous to each of the geographical races for it to retain for the most part, the adaptive elements in its genetic status quo." On page 661 he says that "Racial intermixture can upset the genetic as well as social equilibrium of a group." The evidence usually brought forward for these statements is frequently so contradictory that it seems premature at this time for anyone to make a definite assertion of this kind in the light of the many successful hybrid populations of North America, North Africa, East Africa, South Africa, Southeast Asia, and Latin America.

Throughout the book the discussion of biological relationship, "propinquity of descent" to use Darwin's (1859) phrase, is based upon morphological and metrical characters. On page 662, near the end of the book, Coon advances the view that serology and biochemistry might be useful as morphological data since "The inheritance of these newly discovered characteristics can be accurately determined. Being invisible to the naked eye they are less controversial". He maintains further that "biochemistry divides us into the same subspecies" as morphological evidence does. It is difficult to understand why these very variable mono-

genic characters, so subject to drift and mutation, and lacking historical depth, should enjoy such favor. Knowledge of the mode of inheritance is irrelevant to taxonomic procedure. Characters are chosen on the basis of conservatism in time and space (Mayr 1950).

Coon's compendium is a colossal, gigantic effort to provide a synthesis of hominid history. He has ransacked the literature and given us information which is tucked away in obscure journals not readily available to many of us. His presentation of zoological taxonomical principles in the early chapters of the book will be most useful to physical anthropologists as is his sumary of the Australopithecines. Although some of his conclusions are short-cuts and need not be accepted at par, they do not necessarily detract from the value of this book as a Hominid encyclopedia which puts forward information in a most readable form.

ACKNOWLEDGEMENTS

The writer wishes to thank Dr. J.E. Anderson, Department of Anatomy, University of Toronto, and Dr. Ronald Singer, Department of Anatomy, University of Chicago, for reading the manuscript and suggesting certain changes. The writer is also indebted to Professor E. Mayr, Dr. L. Cabot Briggs, Dr. E.E. Hunt, Harvard University, and to Professor W.S. Laughlin of the University of Wisconsin whose stimulating comments clarified certain ideas on racial taxonomy.

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