Marianne Sommer:
“The Human Family Tree”

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SHADOW OF THE TREE

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Marianne Sommer

THE HUMAN FAMILY TREE Human Phylogeny

How exactly the image of the *family tree* came into anthropology, and from where, is unclear. The common denomination as family tree suggests that there was some borrowing from genealogy, with *genealogy* also being used for "phylogeny." It was most likely the German polymath Ernst Haeckel, who first applied it in evolutionary anthropology to also include "the modern human races."[1] With the discovery of *Pithecanthropus erectus* (in the image "2. Trinil") at the of the nineteenth century, and of other "more developed" (supposedly) fossil hominids that were estimated to be not too removed from each other in time, a unilinear notion of human evolution gave way to a branching model – a process that began with the Neanderthals being re-read as a separate species and relegated to a side branch of the human ascent.[2]

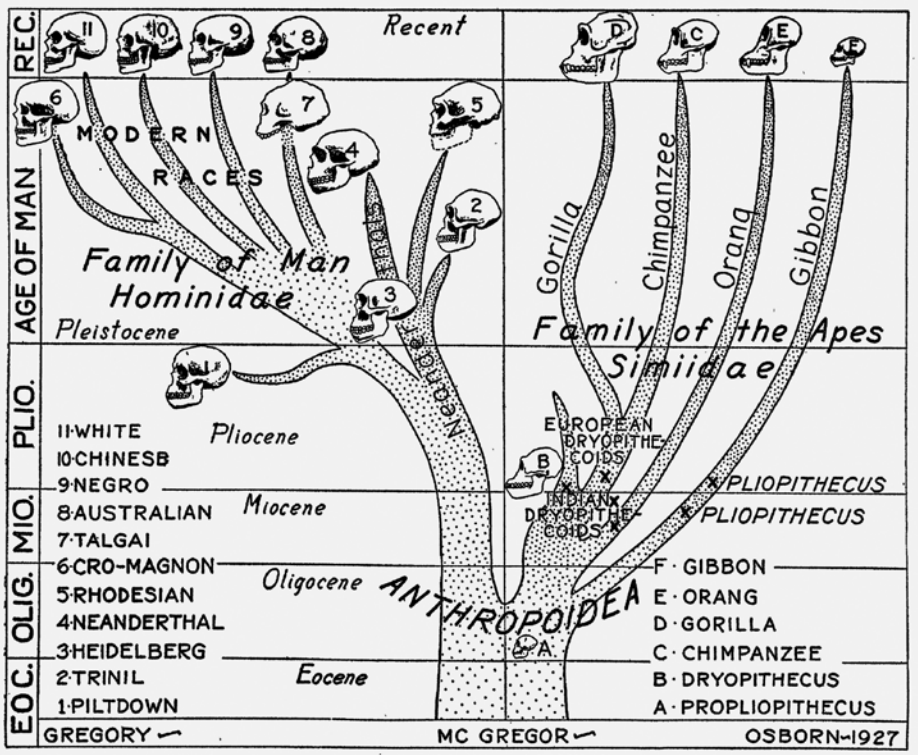


FIGURE 2. RECENT EVIDENCE AS TO THE ASCENT OR PHYLOGENY OF MAN

(Left) Family of man, *Hominidæ*, dividing into the Neanderthaloid (right) and modern racial (left) stocks. Present geologic location of the Piltdown, Heidelberg, Trinil, Neanderthal and Rhodesian fossil races (left). (Right) Family of the apes, *Simiidæ*, including the Pliocene and Miocene Dryopithecoids nearest the ancestral stock of the *Anthropoidea;* also the lines leading to the gorilla, orang, chimpanzee and gibbon. *Anthropoidea*—the common Oligocene ancestors of the *Hominidæ* (left) and of the *Simiidæ* (right).

Henry Fairfield Osborn: "Recent Discoveries Relating to the Origin and Antiquity of Man", in: *Science* 1690/65 (20 May 1927), pp. 481–488, Figure 2, p. 486.

Although diverse diagrammatic images were used to convey human relatedness in anthropology, including net-like configurations, branching structures have dominated the field with the beginning of an evolutionary framework. This phylogeny of the highest primates that includes the "family of man" is quite representative of its time, the early decades

of the 20th century, when paleoanthropology had come of age with the discovery of fossil remains of *Homo erectus* (then called *Pithecanthropus*) at the end of the 19th century, in addition to the existing knowledge about Neanderthals and Cro-Magnons.

From a wealth of images, I have chosen this diagram because it brings together several elements. Henry Fairfield Osborn, president of the American Museum of Natural History in New York and world-renowned paleontologist, liked to symbolize the hominids with the outline of skulls. This is doubly interesting, because on the one hand, it reminded the viewer of the portraits of people in genealogical family trees, and on the other hand, it referred to the central importance of the shape and size of the skull in (paleo)anthropology. The reader would immediately have surmised that the hominid forms on the left side are "more advanced" than the simians on the right, and that there is a hierarchy from left to right, i.e. from the "White" to the "Chinese," the "Negro," and all the way "down" to the "Australian," that was supposedly structured by the degree of brain development. This makes clear that the branching diagrams to convey human relatedness in anthropology could still incorporate the notion of scales – the linear hierarchical series that were used to order the cosmos since Antiquity. Further to the serial, the tree structure with its numbers, letters, and skull-outlines is contained in a rectangle, the sections of which stand for layers of the earth and therefore for geological epochs, from the Eocene to recent times. This iconicity is taken over from the widely used imagery of stratigraphic series in geology. It gives a third meaning to the skulls because they appear to be the fossil remains resting in the geological epochs during which the hominids lived, respectively in the stratigraphic layers in which they were found. Osborn's reference to "recent evidence as to the ascent or phylogeny of man" in the caption underlines this indexical character of the skulls in the image.

The use of the tree to symbolize evolutionary descent in anthropology might seem straight forward, given the long-standing traditions of conveying family genealogies, plant and animal pedigrees, or even religious genealogies in similar ways.[3] However, there are several decisive transformations associated with its uptake. To begin with, and very obviously so in my example, the transfer of a structure that connects individuals to one that connects groups of organisms may introduce a typological element. Entire genera, with all their natural variety, are condensed into an individual specimen or type (here symbolized by a skull).

When the existing human diversity is included in a tree that shows the descent of species and higher taxa, there is the additional consequence that human populations appear to be as different from each other as these species or higher taxa. In fact, trees like the one by Osborn were an integral part of racial anthropology. Many scientists conceived of the different "races" as constituting at least different species. Showing them to have long independent lines of descent therefore captured these scientists' interpretations.[4]

Genealogical trees are devices to connect people, to show how the individuals of a family are related through blood (even if they at the same time exclude certain individuals). However, trees in evolutionary anthropology may deny close relatedness, in our image not only between the so-called *races* but also between other taxa and between the "Family of Man" and the "Family of the Apes." Visually divided from each other by a vertical line, humans and apes constitute separate families, barely touching each other in the Oligocene at least 16'000'000 years ago, where they merge in a very distant and diffuse Anthropoidea stock (marked by *Propliopithecus)*. Osborn, who staged international eugenics congresses and exhibitions at the museum, wanted a noble genealogy for the "White," also referred to as "Caucasian." No fossil form so far found – not even the beautiful and artistic Cro-Magnons – was good enough to be put on their direct evolutionary line, to be their direct ancestor.[5]

Notes

1 Marianne Sommer: "The Meaning of Absence: The Primate Tree that Did not Make it into Darwin's *The Descent of Man*", in: *BJHS Themes* 6 (2021), pp. 45–61.
2 Marianne Sommer: "Mirror, Mirror on the Wall: Neanderthal as Mirror and 'Distortion' in Early 20th-Century French Science and Press", in: *Social Studies of Science* 2/36 (2006), pp. 207–240.
3 Marianne Sommer, Staffan Müller-Wille, Simon Teuscher, Caroline Arni, "In the Shadow of the Family Tree: The Diagrammatics of Relatedness in Genealogy, Biology, and Anthropology as Epistemic, Cultural and Political Practice", in: *History of the Human Sciences* (forthcoming 2024).
4 Marianne Sommer: *Bones and Ochre: The Curious Afterlife of the Red Lady of Paviland*, Cambridge, Mass.: Harvard University Press (2007), chapters 10–12; Marianne Sommer: "Population-Genetic Trees, Maps and Narratives of the Great Human Diasporas", in: *History of the Human Sciences* 5/28 (2015), pp. 108–145.
5 Marianne Sommer: *History Within: The Science, Culture, and Politics of Bones, Organisms, and Molecules*, Chicago: University of Chicago Press (2016), on Osborn part I; Marianne Sommer: *Evolutionäre Anthropologie zur Einführung*, Hamburg: Junius (2015), chapter 2.2. for an exclusive focus on anthropological family trees; Marianne Sommer: "Die Familie und der Stammbaum des Menschen in der Anthropologie", in: Michael Hecht, Elisabeth Timm (eds.): *Genealogie in der Moderne: Akteure – Praktiken – Perspektiven*, Oldenbourg: De Gruyter (2022), pp. 271–299.

Further Readings

Marianne Sommer: *Bones and Ochre: The Curious Afterlife of the Red Lady of Paviland*, Cambridge, Mass.: Harvard University Press (2007).

Marianne Sommer: *Evolutionäre Anthropologie zur Einführung*, Hamburg: Junius (2015).

Marianne Sommer: *History Within: The Science, Culture, and Politics of Bones, Organisms, and Molecules*, Chicago: University of Chicago Press (2016).

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