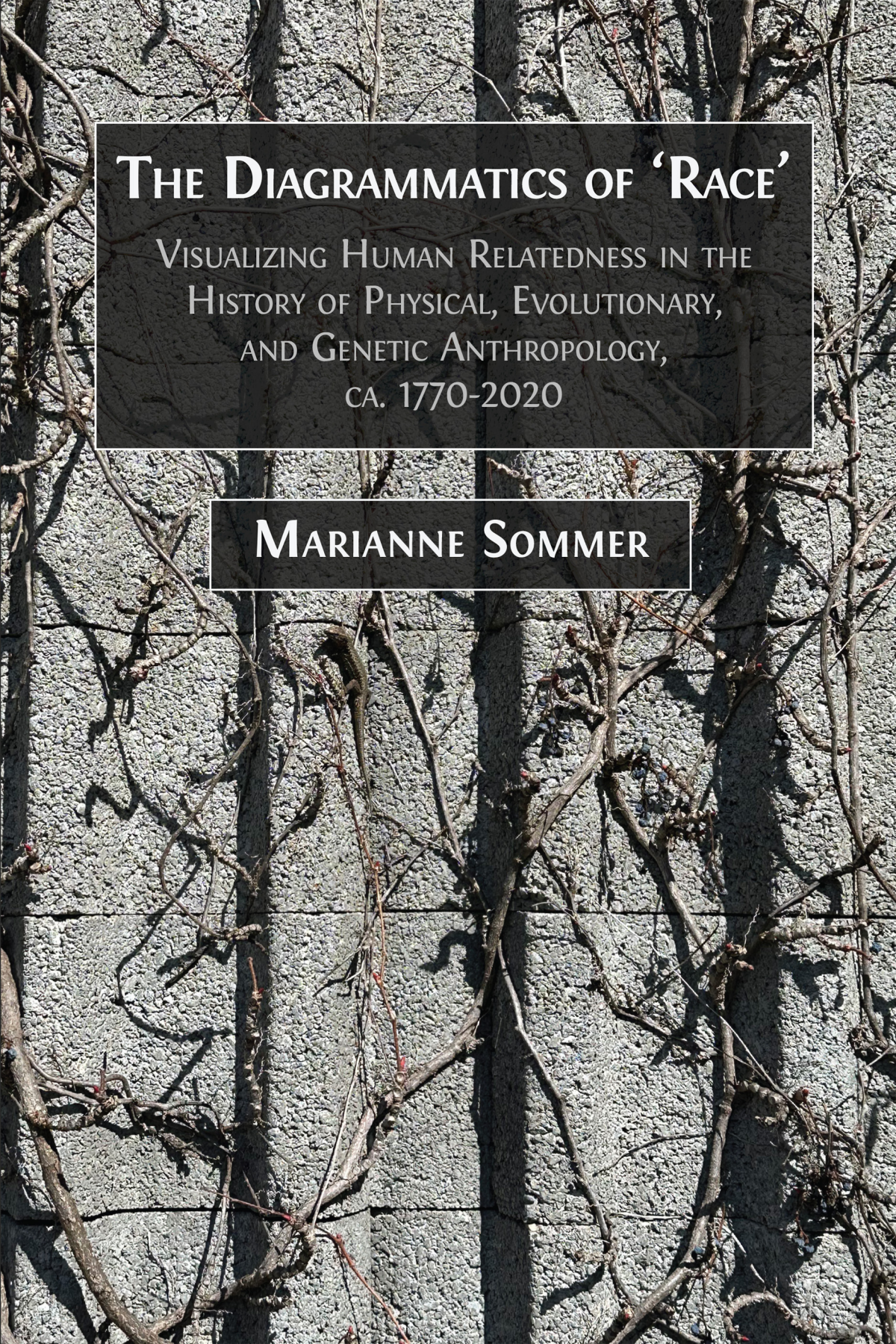

The Diagrammatics of 'Race'

Visualizing Human Relatedness in the History of Physical, Evolutionary, and Genetic Anthropology, ca. 1770-2020

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10. About Treeing...

Darwin's explanations in *Descent* allow some inferences with regard to the issues related to the tree diagram, of which we find metonyms in *Descent* but no visualization. These explanations and Darwin's work at large suggest that he considered that a rightly drawn branching structure might capture in important ways the natural order down to the species level (as far as the fossil record allowed for it). This interpretation is supported by the many tree-like drawings he has left behind. Darwin's tree sketches are lines of thinking and experimenting rather than fleshed-out phylogenies, however, and the diversification of life takes place in all directions and not at a constant speed or with regular intensity. The diagram in *On the Origin of Species* is a diagram in essence in that it represents the understanding and tentative visual capturing of extinction and speciation on the basis of natural selection working on the variation within populations. In fact, Brink-Roby (2009, 256) has noted that even his only published diagram, which in its foldout materiality could transcend the page of the text, appeared too simple and orderly to Darwin. When verbally drawing the tree of life in *On the Origin of Species* (1859, 129–30), he made the reader see a tree in constant motion to allow the simultaneity of the non-simultaneous to appear in a dynamic fashion.

It is therefore not surprising that Darwin, though at times embracing the tree structure to capture natural relations, also felt its limitations and tried to transcend those by coming up with something like a coral or a seaweed.[1] In the end, Darwin needed language to act together with the drawn diagrams to create the intended meaning. A new way of understanding the natural world – its historicity and its present order

1 Horst Bredekamp (2019) has argued most pronouncedly for the centrality of the model of the coral for Darwin's evolutionary thinking.

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– required novel ways of communicating. This, as we have seen, was even more of a challenge as both language and iconography carried traces of older conceptualizations such as the scale of nature. The tree diagram is an image of wide scope in Howard E. Gruber's sense: It is "capable of assimilating to itself a wide range of perceptions, actions, ideas" (2005, 254). The incredibly manifold and changeful interrelations of organisms – the tangled bank – was the spectacle of present complexity that the tree of life, in historicizing, should not reduce to pure symmetry, regularity, simplicity, or cleanliness.

The limitations of tree iconography were more severe in the case of 'racial' evolution, as the tree diagram could support the polygenist cause. In strong opposition to Darwin's insights, it presented human groups as clearly demarcated categories, and though with a common origin (possibly somewhere far down the tree), as having evolved independently from each other – it could suggest species status. Where Darwin played into the polygenists' hands, however, was in referring 'racial' differentiation through sexual selection far back in time. Furthermore, Darwin was not free from religious and social preconceptions with respect to hierarchical scales, chains, or series, the apex of which was the 'White civilized man'. With regard to both 'racial' and gender relations, his ideas were shaped by current prejudices and inequalities. They entered his view of modern human evolution, which though a reticulate process, produced clear gradations. As he wrote in his last paragraph of *Descent*:

> Man may be excused for feeling some pride at having risen, though not through his own exertions, to the very summit of the organic scale; and the fact of his having thus risen, instead of having been aboriginally placed there, may give him hopes for a still higher destiny in the distant future. But we are not here concerned with hopes or fears, only with the truth as far as our reason allows us to discover it. I have given the evidence to the best of my ability; and we must acknowledge, as it seems to me, that man with all his noble qualities, with sympathy which feels for the most debased, with benevolence which extends not only to other men but to the humblest living creature, with his god-like intellect which has penetrated into the movements and constitution of the solar system – with all these exalted powers – Man still bears in his bodily frame the indelible stamp of his lowly origin. (1871b, 405)

The appearance of man in evolution was thus not an inevitable outcome, but a result of some bodily and mental qualities he was given on his way by contingent evolution, which propelled him to "the very summit of the organic scale" and enabled him to conquer the world and beyond. And here, as in many instances in *Descent*, 'man' really means White human male. It has proven impossible to separate the question of race from the question of sex. As in the scale of nature, they are implicated in the family tree. While Darwin, in the footsteps of Blumenbach and Prichard, intended to fight polygenism with a genealogical understanding of humankind, his theories were adapted to all kinds of politics, including sexisms and racisms, and despite his prudence in this regard, his name became forever linked to the tree of life and the 'family tree of man' (Sommer 2021, 60–61).[2]

With Haeckel, phylogenetic tree building became not only standard in biology and anthropology, but the tree also entered the public sphere as the icon to support and spread the ideas of evolution and phylogeny. As Haeckel's correspondence illustrates, the phylogenetic tree was widely used in publications for wider readerships and lantern slides of tree diagrams accompanied public lectures. Additionally, as we have already seen for Redfield's trees of the animal kingdom, the phylogenetic tree was used as pedagogic tool to teach the new view of the living world to school children. With regard to human phylogenies, fossil kin – 'Heidelberg, Neanderthal, and Cro-Magnon Man' – was added beyond *Pithecanthropus*, the cipher that came to be filled with bones from Java right when the century was ending.[3] Haeckel celebrated that his 'family tree of man' had even reached the "Mongolian race",[4] the famous popular writer Wilhelm Bölsche boasted that his Kosmos booklet on the phylogenetic tree of the insects had sold 86,000 times, while the one on the phylogenetic tree of the animals had reached a sale of 47,000,[5] and

2 Pertinent to the politics and politicization of 'Darwinism' are, among many others, Diane Paul's texts, e.g., "Darwin, Social Darwinism and Eugenics" (2006); see for example also the special issue on *The Descent of Man* of the *British Journal for the History of Science Themes* (Milam and Seth 2021).

3 E.g., Wilhelm Breitenbach to Haeckel, 7 October 1880, EHA Jena, A 5921; Breitenbach to Haeckel, 7 December 1909, EHA Jena, A 6075; Fritz Bartels to Haeckel, 27 May 1912, EHA Jena, A 8112.

4 "mongolische[] Rasse" (my translation from Ernst Haeckel to Charlotte Haeckel [mother], 30 June 1871, EHA Jena, A 38615).

5 Bölsche to Haeckel, 7 June 1919, EHA Jena, A 9752.

the biologist Wilhelm Breitenbach bragged about the approximately one hundred people who had attended his lecture on human phylogeny (Breitenbach to Haeckel, 18 March 1908, EHA Jena, A 6043).

Finally, we have seen in this part how Haeckel was the one who not only introduced the tree in anthropology but also already triggered the development towards its disintegration. His polygenism made him imagine human 'racial' evolution rather as parallel lines than as diverging branches (his diagrams of hominid evolution really look rather like classification keys than natural trees). Living human groups were regarded as separate species that had developed at unequal tempi and to different degrees. It is the apex of evolutionary polygenism à la Haeckel that will take center stage in Part III. In the next part, the radicalization of the human family tree will also be tied to the diagram's ideological meanings. In fact, already in Haeckel's case the tree structure stood for a narrative of violence. In an idiosyncratic interpretation of Darwin's selection between prehistoric tribes, Haeckel justified contemporary imperialism and genocide as natural processes that had been driving human evolution since its beginning. In this scenario, progress in human anatomy and culture depended on the displacement of 'lower' by 'higher human species'. Haeckel claimed that 'the woolly-haired human species' were not capable of developing higher civilizations. It was therefore the fate of the 'midland species', and especially the 'Indo-Germanic race', to expand their rule across the earth by virtue of their intelligence and culture. Haeckel prophesied that the species of the temperate zones would extinguish the 'lower human types', except maybe in the tropic and polar zones. It was a process that he believed to be underway with regard to the Native Americans and Aboriginal Australians, the Khoekhoe, 'Papuans', and other Indigenous peoples (1898 [1868], 729–65).[6]

6 Haeckel's work also contains eugenic propaganda and antisemitism (e.g., Hoßfeld 2005).