

it tracks that shift from a study of peoples and nations to a focus on races. It will be very useful to scholars curious about how these investigations intersected with racialized evolutionary thinking that led to phrenology and physical anthropology.

Although Vermeulen aims to nail down the origins of the written practice of ethnography, this historiography could productively be expanded to include gestures in other media. Artists' relationships with the cosmographers and cartographers of their day suggest that their productions also set store by observation and empirical research. As Vermeulen himself argues for the close relationship between cartography and ethnography, as well as the importance of images in providing both source material and inspiration for later ethnographers, it might be worthwhile to consider the role of images in comparative visual thinking about peoples.

Both the review of the literature and the bibliography are exhaustive; lucid summaries of chapters permit directed searches for specific information. This rich book will be useful to researchers concerned with ethnography, anthropology, folklore, the history of science, and postcolonial and whiteness studies. By showing how the world's peoples were placed on the scholarly agenda, *Before Boas* will put scholars in all of these fields on firmer footing.

Stephanie Leitch

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Stephen Gaukroger. *The Natural and the Human: Science and the Shaping of Modernity, 1739–1841.* vii + 402 pp., illus., bibl., index. Oxford: Oxford University Press, 2016. £30 (cloth).

This compelling and erudite book examines the emergence of the human sciences in the eighteenth and early nineteenth centuries and explores the rise of sensibility in studies of human nature and behavior. *The Natural and the Human* is the third installment of Stephen Gaukroger's massive project that investigates the ways in which scientific values were consolidated into a dominant program of inquiry and shaped notions of modernity in the West from the thirteenth century onward. (The first two volumes, *The Emergence of a Scientific Culture* and *The Collapse of Mechanism and the Rise of Sensibility*, were published by Oxford University Press in 2006 and 2010, respectively.)

This latest work begins with David Hume's *Treatise of Human Nature*, published in 1739, and ends with Ludwig Feuerbach's *Das Wesen des Christentums*, which appeared in 1841. Gaukroger's central argument is that Hume's treatise marked the beginning of "the naturalization of the human," while Feuerbach's work extended that naturalization to Christianity. He defines the naturalization of the human as "the formulation in empirical terms of questions about the human realm that has up to that point taken a non-empirical form" (pp. 8–9). This, he contends, changed the meaning and aspirations of science in the eighteenth century. Topics like the human soul, traditionally the purview of theology and metaphysics, now became objects of study in anthropological medicine and philosophical anthropology.

The Natural and the Human consists of three parts. Part I introduces the reader, first, to Hume and the crisis of confidence in the ability of rational science to offer one general system of nature and, second, to the lack of a unified theory of matter in the eighteenth and nineteenth centuries. Previous rationalist systems of morality and society, like those of Hobbes, Spinoza, and Leibniz, seemed to lead to atheism. Such a crisis gave empirical programs of inquiry more traction to compete with conceptual ones. But the story Gaukroger relates here is not about the triumph of sensibility over rationality. It is an elaboration of how both sensibility and rationality were redefined and subjected to empirical investigation in the Enlightenment.

Parts II and III form the analytical core of the book. Part II considers the four main types of naturalization: anthropological medicine, philosophical anthropology, natural history of man, and social arithmetic. Gaukroger employs the historical categories, which later developed into anthropology, linguistics, sociology, and so forth. Anthropological physicians extended Lockean empiricism to the human condition and explored sensation—at various times understood as sensibility, sensitivity, irritability—as the primary source of knowledge. Physicians, like the influential Swiss author Samuel August Tissot, combined their study of human sensibility with broader concerns for public health. This resulted in several new conceptions in medicine of how man's moral habits might be related to physical makeup and, in turn, might produce a morally and physically robust society. By contrast, philosophical anthropology treated both sensation and reason as forms of cognition. Johann Gottfried Herder—its central exponent—subjected man's language, rather than his anatomy, to empirical inquiry. The natural history of man marks the third form of naturalization and included comparative approaches in anatomy, geography, and history. And, finally, social arithmetic stands as the fourth form of naturalization, which explored collective human behavior and morality. Its most internally consistent treatment can be found in Jeremy Bentham's critique. He framed the morality of collective action in political and legal terms, suggesting that the moral value of a collective act lies in the consequences of that act. One natural consequence of Bentham's scheme was the possibility of quantifying morality.

Finally, Part III argues that Christianity became “naturalized” when it was historicized. From Edward Gibbon to Ludwig Feuerbach, various thinkers examined faith in terms of reason and revelation in terms of historical contingency. The theologian David Strauss, for example, interpreted biblical miracles not as untruths but as myths—or symbolic representations of truth—and Jesus as a teacher of man's human and divine nature. Meanwhile, Feuerbach focused on religious consciousness. He claimed that over time people had created representations of the divine as projections of their ideals. Once people attained self-knowledge, he believed, they would acknowledge these to be mere representations. With Feuerbach, Gaukroger brings naturalization of the human to an end.

While the overall structure is coherent and the substance of the book fascinating, some points are not as finely drawn. Gaukroger insists that the naturalization of the human had its correlate in the humanization of nature. It is a pity that this intriguing claim is not fully explored. The chapters on the nature of matter and the natural history of man, in particular, could have been enriched by the recent work on comparative anatomy by Domenico Bertoloni Meli, Anita Guerrini, and Mary Terrall, to name a few. Readers less fluent in the intellectual history of the Enlightenment would no doubt appreciate a more granular contextualization of the numerous historical figures and developments discussed.

Gaukroger nevertheless presents a powerful argument about the various understandings of sensibility and the complex ways in which they informed what “human” meant during the Enlightenment. The book's originality lies, partly, in its scrutiny of how and why theologians, metaphysicians, historians, political economists—and not only *philosophes* and physiologists—assimilated empirical values into their studies of mankind and civilization. The range of epistemological questions the book poses, the breadth of the human sciences it covers, and the sophistication and detail with which its author treats the debates of the period are particularly impressive. Throughout the chapters, Gaukroger returns to key authors and offers meticulous exegeses of their texts. This learned work is lucidly written and effectively organized and is a most welcome contribution to the history of the human sciences. It deserves a place among works like Fernando Vidal's *Sciences of the Soul* (Chicago, 2011) and Elizabeth Williams's *The Physical and the Moral* (Cambridge, 1994). It will appeal to historians, philosophers, and other social scientists, as well as graduate students in these fields.

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