

# The Descent of Man

Robert J. Richards

**DARWIN'S SACRED CAUSE: How a Hatred of Slavery Shaped Darwin's Views on Human Evolution.** Adrian Desmond and James Moore. xxii + 485 pp. Houghton Mifflin Harcourt, 2009. \$30.

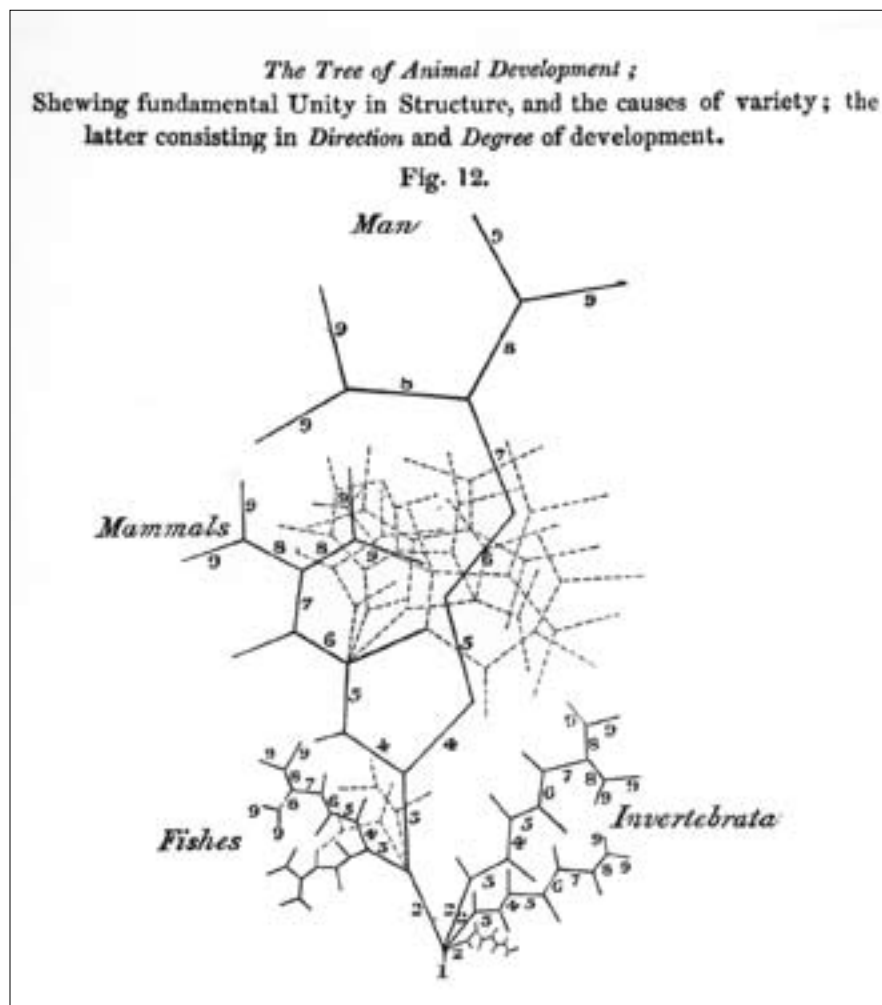
Who can divine the intentions of the human heart, the motives that guide behavior? Some of the reasons for our actions lie on the surface of consciousness, whereas others are more deeply embedded in the recesses of the mind. Recovering motives and intentions is a principal job of the historian. For without some attribution of mental attitudes, actions cannot be characterized and decisions assessed. The same overt behavior, after all, might be described as “mailing a letter” or “fomenting a revolution.” The recovery of intentions is crucial for the historian’s narrative.

In the case of Charles Darwin, perhaps the most important question is, What led him to formulate his theory of the modification and common descent of species? Scholars have settled more or less securely on the answer, arguing that since he was quite aware of the transmutational views of his grandfather, Erasmus Darwin, and those of Jean-Baptiste Lamarck, Darwin would have had his eyes opened to the variability of species on his five-year *Beagle* voyage. After he returned to England in 1836, he consulted with John Gould, ornithologist at the British Museum, about three types of Galápagos mockingbirds. They were not, as the young naturalist had initially assumed, varieties of a single species that had adapted to local environments but true and good species. Frank Sulloway, some years ago, convinced most of the scholarly community that Darwin’s experience with Gould ignited a mind packed with possibility. Thereafter, wouldn’t sheer scientific ambition, the excitement of getting to the bottom of things, have pushed Darwin along during the 20 years of the theory’s gestation? Wouldn’t he have been motivated by the same kind of desire for adventure and recognition that led him to depart England in the first place? It has been generally assumed that positive answers to these questions would account for Darwin’s parting company with English scientific orthodoxy.

In *Darwin’s Sacred Cause*, Adrian Desmond and James Moore propose a radically new answer to the question of Darwin’s motive in pursuing a theory of common descent. I confess that when they first sketched their answer in a long preface to their 2004 edition of Darwin’s *Descent of Man*, I was unconvinced, and in a review for the *British Journal for the History of Science*, I explained why. They had argued that Darwin’s militant antislavery attitude, cultivated in the

abolitionist atmosphere of his family and influenced by his experience with the slave trade in South America, led to his rejection of racial hierarchy, which opened the way for him to believe in the common descent of the human races—and then in the common descent of all creatures. I judged the evidence for this assumed motivation to be absent and the thesis to be ultimately inconsistent with the *Descent’s* hierarchical representation of the “savage” and “civilized” races. But their new book, I supposed, offered ample space for a more nuanced expression of their argument and the elaboration of a context by which Darwin’s motives and intentions could be teased out with more convincing articulation.

For a historical narrative, the context surrounding the main story line is crucial, and context is what chiefly distinguishes *Darwin’s Sacred Cause*. The



This branching tree diagram, which appears in an article by Martin Barry that was published in April 1837, represents Karl Ernst von Baer’s conception of the vertebrate and invertebrate archetypes with their developmental patterns during embryogenesis. Like Darwin’s tree on page 416, which it may have influenced, it is angular and rooted in a basic structure labeled “1.”

authors provide comprehensive accounts of British antislavery movements (which involved members of Darwin's extended family) and of the attitudes of both American abolitionists and Southern slavery supporters. Particularly admirable are the detailed analyses of the racial attitudes of numerous intellectuals and scientists, from James Cowles Prichard, Thomas Carlyle, Samuel George Morton and Louis Agassiz to William Benjamin Carpenter, Charles Lyell, Alfred Russel Wallace and Thomas Henry Huxley. Although Desmond and Moore distribute these contextual discussions more or less in tandem with an account of the development of Darwin's theory, the weight of context pushes the details of the theory far to the sidelines—indeed, so far that evidence for common descent in the form of Darwin's Galápagos mockingbirds is shoved right off the page.

In order for me to come to a conclusion other than the one I originally reached, three questions would need to be satisfactorily answered. First, did Darwin formulate his theory of common descent in order to oppose slavery, as the authors maintain, or did he do so for the reasons that scholars have generally proposed? Of course, he may have had more than one motivation, but then some weighting of motives would be required. Second, would Darwin's theory of common descent ground abolitionists' efforts by expressing the brotherly equality of the races, or would it leave intact the general 19th-century assumption of the inferiority of the "savage" races? Finally, regardless of original motivation, did Darwin believe a theory of common descent would provide a scientific argument against the "peculiar institution," or did he act as though the issue of slavery was unconnected to his theory?

The first question goes to the heart of the authors' thesis, and a firm answer along the lines they suggest would make theirs truly a revolutionary work in history of science. Their most detailed and precisely formulated argument maintains that Darwin believed that the human races formed a brotherhood and that this belief served as model and justification for common descent.

Like siblings they [the human races] shared a common parentage: the races were united by blood. The



Darwin sketched this treelike diagram in his *B Notebook* in July 1837. He probably based it on a branching diagram by Martin Barry (shown on page 415), which appeared in a journal Darwin had read not long before making his own sketch. Like Barry's tree, Darwin's is angular and is rooted in a basic structure labeled "1."

metaphor Darwin visualized near the beginning of his evolutionary journey was of a genealogical "tree": many branches meeting in the past in a joint ancestor.

... His heresy was to extend human racial relationships to all the branches of creation, and to push the trunk deep into the geological soil.

The first quotation that they cite suggesting a comparability between a human pedigree and the general descent of all organisms comes in an entry in Darwin's *Notebook C* for May 1838:

My theory explains that *family* likeness [in animals], which as in absolute human family is undecipherable, yet holds good, so does it in real classification. . . . I cannot help thinking good analogy might be traced between relationship of all men now living & the classification of animals.

On the page facing this quotation the authors reproduce the famous, angular treelike diagram (left) from Darwin's *B Notebook*, which he sketched in July 1837. Their caption states that it is no surprise that Darwin "used the human genealogical image to model the 'common descent' of all life."

The problems with their argument are multiple. First, the entry from May 1838 came well over a year after Darwin first considered descent in his notebooks and eight months after he drew the diagram of July 1837. Second, that abstract diagram has no associated entries mentioning human pedigrees (despite the urging of the authors' caption), nor is it the first branching diagram in the notebooks—two earlier ones specifically sketch the possible branching of fish and birds, also without any mention of human pedigrees. Third, the analogy with the "relationship of all men" appears to be made after his assertion of descent, or at least Darwin's wording so suggests. Finally, the July diagram is quite likely based on a very similar angular branching diagram constructed by Martin Barry, which that naturalist labeled "The Tree of Animal Development." Barry's diagram (reproduced on page 415) was meant to illustrate Karl Ernst von Baer's theory of relationships among animal archetypes; it appeared in a journal that Darwin read a short time before he sketched his July diagram. Of course, in his initial conception of branching descent, Darwin may nevertheless have been explicitly modeling it on human pedigrees, but there is no direct evidence for this. And even if we had such evidence, it would not obviously imply that the human model was somehow meant as a defense against slavery. As the authors themselves point out, many Christian proponents of slavery recognized Adam and Eve as giving rise to the races of mankind. Common descent, in this latter instance, was obviously no compelling argument against slavery.

When Desmond and Moore broach the question of what Darwin's attitude was toward the hierarchy of races, they admit that in *The Descent of Man* (1871) Darwin did not hesitate to predict that the "higher" races will, in the course of time, exterminate the "lower" races. They suggest that Darwin assumed a human racial hierarchy principally

because of books he read in the 1860s, particularly John Lubbock's *Pre-Historic Times* (1865), E. B. Tylor's *Early History of Mankind* (1865) and the Duke of Argyll's *Primeval Man* (1869). These books made the argument that contemporary "savage" societies were indicative of the low state of early man and that living primitives had yet to develop into a civilized condition. What is left unexplained in the authors' account is why many earlier scientific books that argued for the inferiority of blacks and American Indians did not have a comparable impact on Darwin—for example, Samuel Morton's *Crania Americana* (1839) and *Types of Mankind* (1854) or Robert Knox's *The Races of Men* (1850). Perhaps, it might be thought, these books failed to impress Darwin because they asserted the existence of many distinct species of human beings, whereas Darwin supposed the races to be but varieties of a common species. But Darwin himself argued, both in the *Origin of Species* (1859) and the *Descent*, that there was no essential difference between varieties (or races) and species; hence it was a matter of convention that we typically referred to human *races* rather than human *species*. Indeed, Darwin penciled on the back flyleaf of his copy of Morton's *Types of Mankind*: "As a mere naturalist . . . I shd look at races of man as deserving to be called distinct species, yet I consider as descended from common stock so come back at common belief" [i.e., talk of "human races"]. But perhaps the more important problem is to determine what views Darwin held about inferiority early in his theorizing, since he may have wavered only in his later years.

The authors quite forthrightly mention that about a month after he read Thomas Robert Malthus (on September 28, 1838), Darwin applied the notion of struggle to human beings and suggested that superior intellect would give the advantage to whites in Australia. Darwin's reflection is hardly consistent with a supposed nonhierarchical conception of the races. The authors gloss this notebook passage by saying, "His science was becoming emotionally confused and ideologically messy." Aside from a tortured effort to save appearances, they seem to concede that Darwin made hierarchical assumptions virtually at the outset of work on his theory, not merely in the 1860s. And even before the Malthus episode, there are notebook entries that suggest assumptions of racial hierarchy—for

example, when Darwin compares the superior mental organization of American Indians to that of black Africans (*M Notebook*, pages 85-87). From the beginning, Darwin thought "my theory requires progression" (*E Notebook*, page 60); but a progressivist view implies recognition of hierarchies of "higher" and "lower" races and species.

Desmond and Moore have, with great thoroughness, displayed the variety of ideological and scientific positions on slavery during the first half of the 19th century. Many Christian Americans in the South could proclaim common descent of all races from a single pair and yet regard some of those races as inferior and requiring the civilizing hand of slavery. Other people, such as Robert Knox and Louis Agassiz, might reject the Biblical story and consider the races as separate, hierarchical creations, and yet detest slavery. Huxley also opposed slavery, but not because of human unity—he thought blacks inferior—but because it degraded whites. Thus as Darwin was formulating his theory, he had no a priori reason to believe that a hypothesis of common descent would serve as a scientific defense against slavery, especially if one's particular version of common descent supposed a hierarchy of races, as Darwin's surely did. The resolution to the first two questions I put does not, I believe, sustain the authors' general thesis. Nonetheless, although Darwin had no logical reason to suppose that his theory gave support to the abolitionist movement, this would not have precluded him from believing that it did.

The authors, however, have laid out no explicit evidence that Darwin supposed his theory might subvert slav-

ery. And the indirect lines of argument seem to me unavailing. Yet, and here is my final question, does the rich and varied context they construct—the thicket of then-contemporary literature about slavery; the family's abolitionist traditions; Darwin's interactions with individuals such as Lyell, who waffled on the slavery issue; his many abjurations of the peculiar institution—does all of this suggest a connection with his conception of common descent? The authors brilliantly contrive to suggest that it does. But that remains, I believe, only a suggestion. In passing, the authors do mention a reason for Darwin's detestation of slavery that needed no buttressing from a scientific theory: It was simply that he thought the institution unmitigatedly cruel. The answer as to whether this was the whole of the matter lies still hidden in the secret chambers of the great scientist's heart. Desmond and Moore have, nonetheless, produced a book of deep scholarship, which considerably expands our appreciation of Darwin's accomplishment.

---

Robert J. Richards is Morris Fishbein Professor of the History of Science and Medicine; professor of history, philosophy and psychology; and director of the Fishbein Center for the History of Science and Medicine at the University of Chicago. His most recent book is *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought* (University of Chicago Press, 2008). He is also the author of *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (2002); *The Meaning of Evolution: The Morphological Construction and Ideological Reconstruction of Darwin's Theory* (1992); and *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (1987), all from University of Chicago Press.

## MATHEMATICS

# Modernism in Mathematics

Solomon Feferman

---

**PLATO'S GHOST: The Modernist Transformation of Mathematics.** Jeremy Gray. x + 515 pp. Princeton University Press, 2008. \$45.

---

Modern mathematics—in the sense the term is used by working mathematicians these days—took shape in the period from 1890 to 1930, mainly in Germany and France. Strikingly new concepts were introduced, new methods were employed, and whole new areas of

specialization emerged, while other themes were relegated to the dusty shelves of history. At the same time, the nature of mathematical truth and even the consistency of mathematics were put into question, as mathematicians, logicians and philosophers grappled with the subject's very foundations.