that natural selection could not explain the evolution of the human brain, as faculties such as complex abstraction, mathematical and musical ability, etc., clearly were of no use to “primitive” humans, and yet their brains had these capabilities. “If you had not told me I should have thought [this argument] had been added by someone else,” Darwin wrote after reading Wallace’s paper. “As you expected I differ grievously from you, & I am very sorry for it” (letter dated April 14th). Despite being “dreadfully disappointed” with Wallace, as he put it to Lyell, their break was never complete, fortunately, and years later Darwin petitioned the government to support Wallace with a pension.

This is just a sample of the myriad topics of interest to Darwin over the course of his 60th year; an overview too brief to give a full account of the depth and breadth of the Darwin letters of that year, but sufficient to convey both a sense of Darwin at work, and how Darwin’s correspondence gives us a more intimate portrait of the man. The Darwin Correspondence Project has once again provided a great service to Darwin scholars and enthusiasts worldwide with the publication of this latest volume of meticulously annotated letters. For Darwinophiles who might find the cover price of $140 a bit off-putting, a little patience will bring its reward: in time, these letters will be available online, courtesy of the Darwin Correspondence Project web site (www.darwinproject.ac.uk/home)—a monumental project in its own right.

Letters, like diaries, are a kind of time machine, with the power of transporting us to the writer’s time and place and inviting us into his or her intimate and professional circles. This reminds me of astronomer John Herschel’s comment, in an 1836 letter to Lyell, that “Words are to the Anthropologist what rolled pebbles are to the Geologist — Battered relics of past ages.” Surviving correspondence is a different kind of artifact of past ages; the rich 1869 “stratum” of Darwin’s letters is a detailed documentary record of a fascinating time in the history of evolutionary thought, a snapshot of the intellectual and workaday milieu in which the life of Darwin the affectionate father, husband, brother, and friend is preserved together with that of Darwin the philosopher, author, naturalist, colleague, and visionary.

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During much of his lifetime, Richard Owen (1804–1892) was widely considered the most eminent biologist in England. He is remembered, however, mainly because of his clashes with Thomas Henry Huxley and Charles Darwin. Because the history of those events has mainly been written by Darwin’s supporters, it stands to reason that a certain amount of distortion has resulted. Nicolaas Rupke went back to original sources and tried to set the record straight in an earlier edition (published in 1994) of the book herein reviewed. This edition, with a slightly different title, has been shortened somewhat and brought up to date. The book is admirably written, and highly informative.

Owen and Darwin were on good terms until the Origin of Species appeared and Owen published a somewhat hostile review. Darwin claimed that Owen did not believe in evolution, and Owen maintained that he did. Rupke’s reading of the documents supports Owen’s claim. He therefore says that Darwin misrepresented Owen’s views, evidently deliberately. I find this hard to swallow, particularly since at that time Darwin had no good motive for misrepresenting Owen’s views. Darwin had sent Owen the first volume of his monograph on barnacles and Owen was delighted with it. Owen apparently did not tell Darwin what his position was, and Owen’s often obscure and contradictory writings might easily have given Darwin the wrong impression.

Rupke tries, with considerable success, to make sense out of the conflict by placing it in a larger context. The antagonists were struggling for power not only within science proper, but also within society as a whole. Owen was a leader of the effort to expand and develop museums, and that helps to explain his behavior, including his choice of research topics. To achieve his ends, he aligned himself with persons of power and influence. Darwin, Huxley, and others were
pressing another agenda, and in 1858 they clashed with Owen on some of the issues with respect to museums. Huxley had been attacking Owen’s science for quite some time, and opposing Owen’s “evolutionary” ideas was part of his personal agenda.

Calling Owen’s views “evolutionary” is apt to mislead modern biologists, because we view populations and lineages as acquiring new properties as they are modified through time as a result of historical contingencies. But as Owen and many others have seen it, there would be no real innovations, because God would have planned and foreseen everything from the beginning. This could be done in either of two ways. First, the properties of future generations could be built into the initial, created organism, much as the properties of the adult organism are already present in the zygote. Or, second, God could have ordained laws of nature that had the same general effect. As we now see it, populations and lineages are concrete particular things, in other words “individuals” in a broad, philosophical sense. They really do change and acquire new properties. But by the same token, there are no laws for them. There are laws of nature for classes of individuals, but classes cannot change, and it therefore makes no sense to say that they would evolve. If there are extraterrestrial organisms with eyes, those eyes might resemble those of animals here on earth, because the laws of optics apply irrespective of time and place. But Owen suggested that extraterrestrial organisms might be vertebrates, and that is obviously wrong. Owen’s “evolutionism” allowed for Providence, but it put a heavy burden upon the powers of the Creator, who had to ordain all sorts of things, including not just the properties of organisms, but the relationships among them. Owen maintained that horses had come into being at just the right time to provide human beings with transportation.

There seems to be some connection between Darwin’s common ancestors and what Owen called “archetypes.” Owen proposed an ideal vertebrate “archetype” that was very fishy. There has been a lot of discussion as to whether this creature was a Platonic idea, which makes sense insofar as it was supposed to exist in the Mind of God. Rupke argues that Owen’s philosophy was not Platonic. It does seem likely that Owen’s philosophy was syncretic, and derived from secondary sources. It seems to me that the best source would be Schelling via his follower the pantheist Lorenz Oken, whose Lehrbuch der Naturphilosophie Owen arranged to have translated into English. According to Owen, Oken, not Goethe, was the real discoverer of the vertebrate theory skull, so I would consider him less of a follower of Goethe than Rupke does. As I see it, what Owen shared with Oken was a belief that the goal of the natural sciences is to obtain access to God’s mind. That would fit in quite nicely with a point raised by Rupke. Owen proposed that scientists should assume much of the responsibility for interpreting God’s self-revelation. Oken believed that God and the world are the same thing, so it was perfectly reasonable to treat the study of nature as the study of God. If Owen did not go quite so far, he at least conceived of science as a kind of theology.

Rupke examines the argument between Owen and Huxley with respect to the human brain. He tries to elucidate the argument on the basis of Huxley denying outright the presence of the hippocampus minor in non-human primates, whereas Owen only maintained that there is a quantitative difference in its development. Those of us who are real followers of Darwin may well recall his adage: “Our classifications will come to be, so far as they can be so make, genealogies . . .” From a Darwinian point of view, what matters is the genealogical nexus, not how “similar” things are. Both Thomas Henry Huxley and his grandson Julian were opposed to phylogenetic classification, and even today gradal classification has a substantial number of advocates.

I strongly disagree with Rupke’s suggestion (p. xii) that “Owen tried, much more than Darwin, to bring processes of morphogenesis to bear upon the origin of species, and as such he was an early representative of what today we refer to as evo-devo, the field of evolutionary biology that integrates the study of how individual organisms develop with the development of species.” I would remind him that much of the opposition to Darwinism has come from embryologists, and that the historiography of embryology has been grossly distorted as a result of their academic agendas. If you want to read a real contribution to evo-devo, try Darwin’s book The Variation of Animals and Plants under Domestication. And watch out for amateur and amateurish philosophers trying to stuff archetypes into the genome.

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