

## THE CORRESPONDENCE OF CHARLES DARWIN, VOL. 8, 1860

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This massive, meticulously edited volume reveals much of Darwin's thoughts and activities during the year after the publication of *The Origin of Species by Means of Natural Selection: Or the Preservation of Favored Races in the Struggle for Life*. We see him oppressed by a chronically disordered stomach, which often limited his working hours to three a day, and through much of the years distracted by the lingering illness of his seventeen-year-old daughter Henrietta Emma (Etty), fourth of his ten children. Nevertheless, he engaged in an immense correspondence, every scrap of which that could be recovered from sources in Great Britain, America, and as distant as New Zealand has been included in this book.

Darwin eagerly followed the reception of *Origin*, which was widely reviewed in Britain and America. His chief correspondents were his intimate friends, the botanist Joseph Dalton Hooker and the geologist Charles Yell. He also exchanged many letters with the zoologist Thomas Henry Huxley in England and the botanist Asa Gray in America. Although they did not wholly agree with Darwin, these four supporters fought to ensure that he received a fair hearing. On 3 July 1860, Darwin wrote to Gray: "I can now very plainly see from many late Reviews, that I should have been fairly annihilated, had it not been for 4 or 5 men, including yourself. The early favorable reviews were highly important in preventing the subject from being 'burked.'" (suffocated).

Among Darwin's major opponents were the anatomist Richard Owen, the Bishop of Oxford Samuel Wilberforce, and the biologist Louis Agassiz in the United States. On 30 May Darwin wrote to Hooker: "I am getting wearied at the storm of hostile Reviews; & hardly any useful." He was irked by an unsigned review, evidently by Samuel Houghton, geologist, chemist, and mathematician, "a curiosity of unfairness and arrogance" that "shows immeasurable conceit & contempt of all, who are not mathematicians." On 17 June Darwin wrote to Yell: "I should think your remarks were very just about mathematicians not being better enabled to judge of probabilities, than other men of common sense." (A remark appreciated by anyone who tries to wade through biological articles loaded with superfluous calculations of probability.)

Although Darwin refrained from publicly answering reviews that misinterpreted or abuses him, he patiently replied by letter to correspondence who politely questioned some of his conclusions.

Repeatedly he noticed with satisfaction that scientists who would at first would go only an inch, went with a foot or a yard before the year's end. On 2 December he wrote to Huxley: "I can pretty plainly see that if my view is ever to be generally adopted, it will be by young men growing up & replacing the old workers, & these young ones finding that they can group facts & search out new lines of investigation better on the notion of descent, than on that of creation." A prophesy fulfilled!

Darwin was perplexed by the failure of critics to understand what he meant by "natural selection." Impressed by the great changes in domestic animals and cultivated plants wrought by man's selection, he attributed great importance to an analogous process in nature. But the two differ radically in method: an intelligent breeder of plants or animals gives special care to desirable variations; nature does nothing of the sort. On 6 June he wrote to Yell: "I suppose 'natural selection' was bad term; but to change it now, I think, would make confusion worse confounded." In a letter to Gray on 26 September, he wrote: "If I had to write my book again I would use 'Nature Preservation' and drop 'Selection.'" An unfortunate consequence of the retention of the term "natural selection" is the stubborn insistence by many present-day biologists that it is confined to individuals and never applies to groups (individual selection *vs* group selection). The substitution of "natural preservation" for "natural selection" would have furnished no support for this short-sighted dogma because it is obvious that groups, species, and larger categories of organisms are preserved along with individuals.

Other letters are about *Drosera*, which fascinated Darwin, and other carnivorous plants; the pollination of orchids and other flowers; and such small but revealing details as the shoulder stripes of asses and mules. While engaged in an exacting correspondence and working on his large book, "**The Variation of Animals and Plants under Domestication**", he continued his direct observation of nature. "How much better fun observing is than writing," he confided to Yell on 12 September.

Seven appendices include a list of the author's presentation copies of **Origin**; new material added to the American edition; Patrick Matthew's letter in the **Gardeners' Chronicle** anticipating certain of Darwin's views; and a contemporary report of the famous session of the British Association for the Advancement of Science at Oxford on 30 June 1860, when Huxley and Hooker effectively answered Bishop Wilberforce's attack on Darwin's book.

Perusal of this bulky correspondence increases our admiration of a great philosophical naturalist, humble, patient, open-minded, devoted to his large family, concerned for the health of his friends, bravely carrying on his self-imposed task despite chronic ill health.

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