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Author(s): John Angus Campbell

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JOHN ANGUS CAMPBELL

The Invisible Rhetorician: Charles Darwin's "Third Party" Strategy

Our traditional picture of Darwin is of a reclusive semi-invalid, for twenty years secretive about his theory, and once it was published, reluctant to engage in its public defense. We think of Darwin as the prophet of natural selection, not as a wily rhetorician brooding over the problem of persuasion and pulling strings behind the scenes. Darwin's absence from the confrontation at Oxford where first Thomas Henry Huxley and later Joseph Dalton Hooker defended him against Bishop Wilberforce, his reluctance to answer his critics through essays in literary and scientific quarterlies, and the emphasis given by historians to the biting reviews and public lectures of Huxley have reinforced our view of Darwin as a rhetorical indigent, dependent on the charity of the persuasively gifted.¹

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¹Gertrude Himmelfarb, *Darwin and the Darwinian Revolution*, (New York: Anchor Books Doubleday & Co., Inc., 1962), 287, 361. William Irvine, *Apes Angels and Victorians*, (Cleveland & New York: Meridian Books, The World Publishing Co., 1964), 101, 114, Philip Appleman, ed., *Darwin: A Norton Critical Edition*. (New York: W. W. Norton Co., 1970) p. xiv. Peter Brent, *Charles Darwin: A Man of Enlarged Curiosity*, (New York: Harper & Row, 1981), 436.

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As with any successful revolution, planning as well as merit and timing played an important role in the epochal change in biological thought we associate with Darwin's name. As a man Darwin was too methodical in his habits, and as a scientist, he had too much at stake in the debate over his theory and knew the politics of his profession too well not to have weighed the strategic and tactical issues essential to his victory.² In earlier studies I have examined the internal persuasive strategies of the *Origin of Species*.³ In this essay I will examine Darwin as a rhetorician in a distinct but complementary sense: his skill as the manager of his own campaign.

FROM DIALOGUE TO DEPLOYMENT

It is a moot historical question whether Darwin would ever have published his theory of species but for the prompting of his friends, particularly Joseph Dalton Hooker and Charles Lyell.⁴ It is certain, however, that Hooker and Lyell, along with Asa Gray and Thomas Henry Huxley, were Darwin's closest allies. The first person with whom Darwin discussed his theory at length, and his most trusted confidant throughout his life, was the botanist Hooker. Darwin had shown the 1844 "fair copy" sketch of his theory to Hooker and part of the dialogue between the two is still visible between its lines and in its wide left margin.⁵ Hooker's acceptance of

²On Darwin's methodical habits: Francis Darwin, ed., *The Life and Letters of Charles Darwin*, (New York: D. Appleton & Co., 1911) Vol. I, 90–91, 93, 96–99, 101–02, 121, also Himmelfarb, 134–35, Brent, 347–49. On Darwin's awareness of the politics of his profession see Martin J. S. Rudwick, "Charles Darwin in London: The Integration of Public and Private Science," *Isis*. Vol. 73 no. 267., (1982), 186–206.

³John Angus Campbell, "Charles Darwin & The Crisis of Ecology: A Rhetorical Perspective," *Quarterly Journal of Speech*, 60, (December, 1974), p. 442–449. "The Polemical Mr. Darwin," *Quarterly Journal of Speech*, 61 (December, 1975) p. 375–390. "Charles Darwin: Rhetorician of Science," in John Nelson, et al., eds., *The Rhetoric of the Human Sciences*, (Madison, Wisconsin: The University of Wisconsin Press, 1986), 69–86, "Scientific Revolution and the Grammar of Culture: The Case of Darwin's *Origin*," *Quarterly Journal of Speech*, 72, (November, 1986), 351–376.

⁴LL 2, 74, 12 February, 1860 To Charles Lyell "How much I owe to you and Hooker! I do not suppose I should hardly ever have published had it not been for you." For an account of the Darwin-Hooker relationship see Brent, 360–66. See also LL 1, 384–91.

⁵DAR 113 Cambridge University Library. For example on 188 Hooker: "How do you limit the tendency to change?" Darwin: "By selecting the parts useful to ani-

Darwin's theory in his introductory essay to *The Flora of Tasmania*, published as a separate volume in the same year as the *Origin* (1859), gave Darwin much needed and highly visible independent support in the initial stage of his campaign.⁶ Hooker's private friendship and public support were invaluable to Darwin throughout the years of controversy. Lyell ranks as Darwin's second important dialogue partner. Though Lyell had offered more caution than encouragement to Darwin's ideas on species when he had first heard of them in the late thirties, he became a more actively interested discussion partner in 1855 when he opened his own notebooks on transmutation. Darwin was a close student of the strategy, as well as the content of Lyell's classic *Principles of Geology* (1830–33), and from 1855 until his death in 1875, Lyell was Darwin's closest advisor on rhetorical strategy.⁷ Asa Gray, the American botanist, had corresponded with Darwin since 1855 and became his third major dialogue partner on evolution when, in response to Gray's urging, Darwin let him in on the details of the theory in 1857. Gray was to play a decisive role in refining Darwin's religious strategy.⁸ Huxley, Darwin's fourth major dialogue partner, had been a regular correspondent since the early 1850s but did not know the full details of Darwin's theory until publication of the *Origin*. Best known as "Darwin's bulldog," Huxley conducted a well publicized campaign for transmutation, but, as contemporary scholarship is revealing,

mals' habits." Sometimes the dialogue was blunt. On 161 Hooker writes "very rotten."

⁶Joseph Dalton Hooker, *On The Flora of Australia, Its Origin, Affinities and Distribution, Being An Introductory Essay To the Flora of Tasmania*, (London: Lovell Reeve, Henrietta Street, Covent Garden, 1859).

⁷For Darwin and Lyell on transmutation see: *LL* 1, 268, 13 September, 1838. See also: L. G. Wilson, ed., *Sir Charles Lyell's Scientific Journals on the Species Question*, (New Haven & London: Yale University Press, 1970), xlv–xlvii, John Langdon Brooks, *Just Before The Origin: Alfred Russel Wallace's Theory of Evolution*, (New York: Columbia University Press, 1984), 259. For Lyell's influence on Darwin's rhetoric see: John Angus Campbell, "Darwin and *The Origin of Species*: The Rhetorical Ancestry of An Idea," *Speech Monographs*, Vol. 37, no. 1., (March, 1970), esp. 5–7, Michael Bartholomew, "The Non-Progress of Non-Progressionism: Two Responses to Lyell's Doctrine," *British Journal For The History of Science*, Vol. 9, (1976) esp. 170–173. Martin J. S. Rudwick, "The Strategy of Lyell's *Principles of Geology*," *Isis*, Vol. 9, (1970), esp. 32–33. See also *LL* 1, 141–42, 144, *LL* 2, 2–10, 59–61, esp. "But you are a pretty Lord Chancellor to tell the barrister on one side how best to win the cause!" 5.

⁸The first letter between the two is *LL* 1, 420, 25 April, 1855. See also: *LL* 1, 437, 20 July, 1857, *LL* 1, 477, 5 September, 1857.

Huxley could be as philosophically dangerous for Darwin as he was, on occasion, tactically useful.⁹ As these four men began their services to Darwin as his audience and gradually found themselves acting as his agents, we may designate them as his “inner guard.”

Darwin also had an “outer guard,” consisting, among others, of Darwin’s cousin Rev. W. D. Fox, Rev. Leonard Jenyns, and Lyell’s brother-in-law Charles J. F. Bunbury. All of these individuals and various other scientific correspondents knew from an early period at least the general nature of Darwin’s species work and regularly sent Darwin information. As they did not play a major role in Darwin’s third party defense, they will not be our principal concern.¹⁰ Further, as A. R. Wallace was largely on the fringes of Darwin’s circles, and indeed began as a competitor, our examination will only incidentally focus on his contributions to Darwin’s third party strategy.

It is certain that but for the intervention of Lyell and Hooker the *Origin* would not have the sharpness and general appeal that it does. The reason Darwin was able to write a book as condensed and pointed as the *Origin* in less than a year after the receipt of Wallace’s fateful letter on June 18 of 1858 was that for three years previous Charles Lyell had urged Darwin to get moving, and Joseph Hooker and Charles J. F. Bunbury had emphatically seconded his advice.¹¹

What occasioned Lyell to pressure Darwin in 1855 was a little noticed essay by Wallace which Lyell happened to read. The essay was entitled: “On The Law Which Has Regulated the Introduction of New Species.” Lyell warned Darwin that if he did not publish an abstract, someone, namely Wallace, would beat him into print.¹² Darwin’s reaction to Lyell’s proposal was characteristic in that it highlighted the conflicts among his motives—and his way of getting third parties to mediate them.

Darwin did not like the idea of writing for priority, and he did not like the idea of an abstract. On the other hand, he did not like

⁹Irvine, 105. For contemporary revaluations of Huxley as a scientist see notes #51 & #54.

¹⁰LL 1, 385, 393, 395, 406, 409, 430, 442–443, also Himmelfarb, 213–14, 474 note #49.

¹¹R. C. Stauffer, *Charles Darwin’s Natural Selection*, (Cambridge: Cambridge University Press, 1975), 8, also LL 1, 429.

¹²Brooks, 260.

the idea of being beaten to the punch. Merely writing a short sketch to establish his priority violated Darwin's sense of fidelity to pure theory, and there was also his partially suppressed desire to be recognized for a great discovery.¹³ How Darwin used his friends to mediate the tension between these conflicting motives is well captured in one of his many letters to Hooker: ". . . It is really dreadfully unphilosophical to give a *resume*, without exact references to an unpublished work. But Lyell seemed to think I might do this at the suggestion of friends. . . ." ¹⁴ The idea of coming forward at the instigation of others was the one aspect of Lyell's proposal that unequivocally pleased him. As Darwin wrote to Lyell: "I am delighted that I may say (with absolute truth) that my essay is published at your suggestion. . . ." ¹⁵ What resolved his indecision about whether to write an abstract was less an explicit conviction and more the writing process itself. He found that, even with the intention of publishing an abstract, his theme outstripped his powers of condensation. When in June of 1858 the Wallace letter brought a halt to the tome he was composing, Darwin was not unprepared for what had to happen next.¹⁶ Writing the *Origin*, marked a return to the initial publication strategy urged upon him from the first by his two closest advisers.

The decision of how to respond to Wallace's letter also illustrates how Darwin appealed to his friends to resolve conflicts for him. Darwin at first had begun a letter surrendering priority to Wallace, but instead wrote Lyell that perhaps he could ". . . state I was induced now to publish a sketch . . . from Wallace having sent me an outline of my general conclusions."¹⁷ In the face of the drama of Wallace's letter plus the domestic tragedy of the loss of his infant son to scarlet fever, Darwin wrote to Hooker "I place myself absolutely in your and Lyell's hands."¹⁸ The effect of Darwin placing Wallace's essay in the care of Lyell and Hooker was that Wallace could never complain that Darwin had not dealt with his discovery fairly, for the decision concerning how to publish it was not made

¹³ LL 1, 474–77, 83–84, offers to pay for Linnean society publication if too long, LL 1, 487.

¹⁴ LL 1, 427–28, To Hooker 9 May, 1856.

¹⁵ LL 1, 430.

¹⁶ Stauffer, 9.

¹⁷ LL 1, 474, 484.

¹⁸ LL 1, 483.

by Darwin but by two independent and each highly credible individuals. In July of 1858—Darwin being too ill to attend—Lyell and Hooker presented before a meeting of the Linnean Society extracts from Darwin's sketch of 1844 and from his 1857 letter to Asa Gray, as well as Wallace's manuscript. The papers were later published in the society's journal.¹⁹

In a letter to Hooker later that month thanking him for his help, we already find a slight shift in emphasis; Darwin's colleagues now do not seem to be pressuring him to publish as much as Darwin is pressuring them to stand up and be counted: ". . . I look at it as very important, for the reception of [the mutability of species] that . . . the greatest Geologist and Botanist in England tak[e] any sort of interest in the subject: I am sure it will do much to break down prejudices."²⁰ In almost identical language Darwin wrote to Lyell on June 18 and said that his and Hooker's public presentation of the theory of descent was ". . . so very important, that I am almost glad of Wallace's paper for having led to this."²¹ In May of 1859 as a reminder to Hooker of how grateful he was for his aid, and perhaps to suggest how much he would need it in the near future, Darwin sent to Hooker a report of an address by a Rev. S. Haughton to the Geological Society of Dublin. As Darwin reported to Hooker, Haughton said of the Darwin/Wallace papers that they ". . . would not be worthy of notice were it not for the weight of authority of the names (i.e. Lyell's and yours), under whose auspices it had been brought forward."²²

DARWIN'S EFFORTS TO SECURE LYELL'S ENDORSEMENT

As the date of publication of the *Origin* drew near, what had been a noticeable theme in Darwin's letters became a preoccupation, and at least in the case of Lyell, an obsession. Darwin's real-

¹⁹Paul H. Barrett, ed. *The Collected Papers of Charles Darwin* (Chicago: The University of Chicago Press, 1977) p. 3–4, also Sir Gann DeBeer, *Charles Darwin and Alfred Russell Wallace, Evolution by Natural Selection* (Cambridge: Cambridge University Press, 1958) p. 259–279. For a critical account, see Brooks, 258–68.

²⁰LL 1, 484, 5 July, 1858.

²¹LL 1, 486.

²²LL 1, 512.

ization that the long delayed moment of truth was at hand made him extremely anxious for the support of his old mentor. Two days before the *Origin* went on sale, Darwin wrote to Lyell, who had received an advance copy: . . . I regard your verdict as far more important in my own eyes, and I believe in the eyes of the world than of any other dozen men.²³

In the months that followed, Darwin wrote numerous and often lengthy letters to Lyell, and shorter ones to Hooker, Gray, and Huxley, addressing their various questions and patiently explaining his doctrine.²⁴ Hooker and Gray were solid converts whose questions were chiefly technical—the issue of “design” being the only substantive difference between Darwin and Gray. Huxley’s caveats concerned Darwin a great deal, and we will examine them presently. Lyell, however, was an especial source of frustration for Darwin, partly because Darwin was a disciple of Lyell’s uniformitarianism and because Lyell’s public stature was so great that his hesitation would slow general acceptance, while his “conversion” would virtually spell victory.²⁵

The pressure Darwin increasingly put on Lyell for an unequivocal endorsement illustrates a change, both in Darwin’s relationship to Lyell and in Darwin’s own priorities. Previously, Darwin valued Lyell for the integrity of his opinions, so much so that Lyell’s approval virtually authorized Darwin’s own inner confidence. Responding to a “eulogy” Lyell had given him in the course of an address at Aberdeen in September, 1859, Darwin wrote to Lyell: “You would laugh if you knew how often I have read your paragraph, and it has acted like a little dram.”²⁶ On December 2, Darwin had written: “I do not think I am brave enough to have stood being

²³LL 1, 521, 20 September, 1859.

²⁴For example: Lyell, LL 2, 24–26, 127–137, Francis Darwin, ed. *More Letters of Charles Darwin*, 2 vol. (London: John Murray, 1903), Vol. 1, 132, 140, ML 2, 30, Gray, LL 2, 104–06, 125–26, ML 1, 455, Huxley, ML 1, 137, 151, Hooker, LL 2, 51–55, ML 1, 458.

²⁵For example, see Bishop Wilberforce’s appeal to Lyell in his *Quarterly Review* essay, on which his Oxford speech was based, to hold the line on transmutationism. “Darwin’s Origin of Species,” *Quarterly Review*, CVIII (July, 1860), 264. LL 1, 519, 2 September, 1859 Darwin to Lyell “Remember that your verdict will probably have more influence than my book in deciding whether such views as I hold will be admitted or rejected at present.”

²⁶LL 1, 524, 25 September, 1859.

odious without support, now I feel as bold as a lion."²⁷ As the public stage of the controversy unfolded, Darwin continued to claim in his letters to Lyell that he did not care "Whether you go far, or but a very short way with me . . .",²⁸ but the fact is he did care. Darwin's obsession with securing Lyell's endorsement caused him to forget Lyell's deep revulsion to any prospect of an animal ancestry for man and that his thirty year opposition to geological progressivism had been aimed at blocking any such argument.²⁹ When Lyell failed to come out solidly and unequivocally on Darwin's side in his long anticipated *Antiquity of Man*, (1863) Darwin's letter clearly indicates both how little he understood or valued the older man's perspective, and how highly he valued his endorsement to insure the success of his own: ". . . I have been greatly disappointed that you have not . . . spoken fairly out what you think about derivation of species. . . . I think the *Parthenon* is right and you will leave the public in a fog. . . . I had always thought your judgment would have been an epoch in the subject. All that is over with me."³⁰ In a letter to Asa Gray he reiterated the same complaint.³¹

When the first edition of Lyell's book sold out within a month, Darwin's ingenuity in focusing public attention on Lyell's second edition reveals the depth of Darwin's anxiety to secure Lyell's endorsement. The passage Darwin seized upon in the second edition of Lyell's *Antiquity* contained a parenthetical expression absent from the first. The passage read:

Yet we ought by no means to undervalue the importance of the step which will have been made, should it hereafter become the generally received opinion of men of science (as I fully expect it will) that the past changes of the organic world have been brought about by the subordinate agency of such causes as Variation and Natural Selection.³²

²⁷LL 2, 33.

²⁸LL 1, 524.

²⁹Michael Bartholomew, "Lyell and Evolution: An Account of Lyell's Response To the Prospect of An Evolutionary Ancestry For Man," *The British Journal For The History of Science*, Vol. 6, No. 23 (1973), 261–303. See also Neal C. Gillespie, *Charles Darwin and the Problem of Creation*, (Chicago: The University of Chicago Press, 1979), 60–61.

³⁰ML 2, 196, 6 March, 1863.

³¹LL 2, 195–96, 23 February, 1863.

³²LL 2, 205, 18 April, 1863, Charles Lyell, *The Antiquity of Man* (London: John Murray, 1862, second edition) p. 469.

What Darwin read in the parenthesis was apparently not (“as I fully expect it will”) but (“as I fully believe”). Darwin’s misreading indicates how much he was influenced by rhetorical pressures rather than scientific interests. In thanking Lyell for the copy of the second edition of his book, Darwin reported:

I have written a letter to the *ATHENAEUM* in order, under cloak of attacking the monstrous article on heterogeny, to say a word for myself in answer to Carpenter . . . and then with infinite slyness have quoted your amended sentence with your parenthesis (“as I fully believe”); I do not think you can be annoyed at this, and you see that I am determined as far as I can, that the public shall see how far you go. This is the first time I have ever said a word for myself in any journal, and it shall, I think, be the last.³³

In a note to Hooker, Darwin wrote: “. . . I mean to quote Lyell’s sentence in his second edition, on the principle if one puffs oneself, one had better puff handsomely. . . .”³⁴ Darwin’s letter to the *Athenaeum* (April, 1863) was not the last time he appeared in print in his own behalf, for the next month he inserted a brief paragraph in his defense in the same journal. His next major undertaking in his own behalf, which we shall examine later,—his review of W. F. Bates’ book whose publication he had encouraged—was equally “sly,” but it did not appear until a year later.³⁵

The extreme to which Darwin went to draw attention to what he took to be Lyell’s endorsement is one example of the shift in Darwin’s relation to his inner guard from valuing them as critical dialogue partners to valuing them as advance men. It also mirrors the shift in Darwin’s role from pure scientist to rhetorician. The case of Darwin’s relation to Thomas Henry Huxley provides another illustration of the same shift in roles and values.

DARWIN AND HUXLEY: AN UNSTABLE ALLIANCE

Prior to publication of the *Origin*, Darwin was nearly as anxious for Huxley’s favorable opinion as he was for Lyell’s. In a letter

³³ *Ibid.*

³⁴ *Ibid.*, 204.

³⁵ Barrett, *Collected Papers*, 81, 87–93.

written just one month prior to the *Origin's* appearance, Darwin asked Huxley for names of "good and speculative foreigners" to whom he could send copies of his work and added that he was "*intensely* [double underscoring] curious to hear what effect the book produces in you."³⁶ In a letter written on the day the *Origin* appeared (November 24), Darwin triumphantly reported to Huxley that the "whole first edition of my book sold out the first day." He also added: "Remember how deeply I wish to know your general impression of the truth of the theory of Natural Selection."³⁷ Huxley's answer and Darwin's question must have crossed in the mail, for in a letter dated November 23, Huxley wrote: "As for your doctrine, I am prepared to go to the stake, if requisite, in support of chapter IX, and most parts of Chs. X, XI, . . ."³⁸ Darwin was jubilant. "Like a good Catholic who has received extreme unction, I can now sing 'nunc dimittis.'" His further comments underscore the importance he placed on the approval of Huxley and of his three closest friends.

Exactly fifteen months ago, when I put pen to paper for this volume, I had awful misgivings; and thought perhaps I had deluded myself . . . and then I fixed in my mind these judges, on whose decisions I determined mentally to abide. The judges were Lyell, Hooker, and yourself. It was this which made me so excessively anxious for your verdict.³⁹

Although Darwin was genuinely grateful for Huxley's early reviews and his periodic defense of the doctrine of descent, Huxley was no more solidly in line with Darwin's program than was Lyell. Despite Huxley's well publicized services for Darwin, and Darwin's evident affection for him, Huxley was from the first Darwin's most dangerous friend. Before his eleventh hour decision to throw his support behind Darwin's cause, Huxley had been an outspoken opponent of transmutation. His review of the popular evolutionary work, *Vestiges of the Natural History of Creation*, was the only work in

³⁶LL 1, 527.

³⁷Unpublished correspondence, or correspondence published other than in *Life and Letters*, or *More Letters*, will be referenced by Darwin catalogue numbers. The citation will be the Calendar, then the page, then the catalogue number, the date, and other identification. Frederick Burkhardt, & Sydney Smith, editors, *A Calendar of the Correspondence of Charles Darwin, 1821–1882*, (New York & London: Garland Publishing, Inc., 1985), 123, 2550, 24 November, 1859, Down House (MS11:4).

³⁸LL 2, 26, 23 November, 1859.

³⁹LL 2, 27–28, 27 November, 1859.

his long polemical career for which he ever expressed regret on grounds of “needless savagery.”⁴⁰ Further, as Mario DiGregorio has shown in his brilliant study of Huxley as a scientist, evolutionism did not play any significant role in Huxley’s professional work—including his well publicized *Man’s Place in Nature*—until after 1868. Even then the kind of evolutionism he favored was based on Ernst Haeckel’s genealogical work and did not depend upon commitment to Darwin’s chief mechanism, Natural Selection.⁴¹

The early correspondence between Darwin and Huxley shows that virtually from the start Darwin valued Huxley partially for his potential to provide Darwin needed publicity and partially for his analytic skill. In an unpublished letter dating from their first year of correspondence and several months after Darwin had given Huxley a complimentary copy of his first volume on barnacles, Darwin wrote:

. . . you spoke as if you had an intention to review my cirripedia: it is very indelicate of me to say so, but it would give me pleasure to see my work reviewed by anyone so capable as you. . . . My chief reason for wishing it is [that] otherwise no foreigner will ever hear of its existence. . . . Upon my honour I never did such a thing as suggest (not that I have exactly suggested this time) a review to any human being. But having done so I may mention. . . .⁴²

He then emphasizes a point he regards as especially worthy of notice. In a letter from 1854 the same subject comes up again: “I am very much pleased to hear that you have not given up the idea of noticing my cirripedal volume.”⁴³

DiGregorio has shown that the philosophic common ground between Darwin and Huxley was limited to the rather general program of providing immanent explanations to what others, such as Richard Owen and Louis Agassiz, explained idealistically. In that

⁴⁰Himmelfarb, 219. *Vestiges* was first published in 1844. For Huxley’s review: “*Vestiges*,” *British and Foreign Medico Chiurgical Review*, Vol. 13 (1854), 425–39.

⁴¹Mario DiGregorio, *T. H. Huxley’s Place In Natural Science*, (New Haven & London: Yale University Press, 1984), xix–xviii.

⁴²Calendar 78, 1514, 11 April, [1853] Imperial College (Huxley 5: 13) & DAR 145. See also: *LL* 2, 188–89.

⁴³*ML* 1, 74, see also 75, 2 September, [1854] “. . . I want you to tell me a few names [of Continental Naturalists] . . . whom you think would care for my volume. I do not mean in the light of puffing my book, but I want not to send copies to those who . . . would view it as waste paper.”

Darwin attempted to explain biological structures by immanent natural laws, he represented, for Huxley, good science. But apart from this general agreement on the sort of philosophy which ought to govern science, there were fundamental disagreements between them in styles of inquiry and in their criteria for proof.⁴⁴

In style of inquiry, Huxley was a man of the laboratory and, in common with his idealist opponents, was interested primarily in structural continuities—the architecture and engineering of living forms. Darwin was a field naturalist, as was Wallace, and was primarily interested in the very things which frustrate the systematist—nature's endless variety.⁴⁵ With respect to proof, both Darwin and Huxley were empiricists, but Darwin's empiricism was narratological; that is, he believed that the testable unit in science was less the isolated fact than the unified narrative. In Darwin's view, natural selection should be accepted, not because it could be proven experimentally but because it could bring greater coherence to larger bodies of facts than any other theory then available. Huxley's empiricism was experimentalist in a bluntly literal way. Huxley "accepted" Darwin's theory with the caveat that natural selection had not yet been confirmed experimentally.⁴⁶ It proved worrisome to Darwin that Huxley not only kept repeating his caveat, but that he also kept thinking of ways to confirm or deny Darwin's theory! In a tone somewhere between fear and exasperation Darwin wrote to Huxley several months before the appearance of the *Origin*:

You speak of finding a flaw in my hypothesis, and this shows you do not understand its nature. It is a mere rag of an hypothesis with as many flaws and holes as sound parts. My question is whether the rag is worth anything? I think by careful treatment I can carry in it my fruit to market for a short distance over a gentle road; but I fear that you will give the poor rag such a devil of a shake that it will fall all to atoms: and a poor rag is better than nothing to carry one's fruit to market in. So do not be too furious.⁴⁷

That the tactical differences between the two were as great as their philosophic ones—and that Darwin charted a rhetorical course

⁴⁴DiGregorio, xix–xx, 34–50. See also: Michael Bartholemew, "Huxley's Defense of Darwin," *Annals of Science*, 32 (1975), 526, 529–34.

⁴⁵Bartholemew 534, DiGregorio 197.

⁴⁶DiGregorio 60–64.

⁴⁷*Calendar* 120, 2466, 2 June [1859?] Imperial College (Huxley 5: 65). See also reference in DiGregorio, 62.

independent of Huxley—is best illustrated by the event which usually is cited as Huxley's greatest service to Darwin, his debate with Bishop Samuel Wilberforce at Oxford.

THE OXFORD LEGEND AND DARWIN'S STRATEGIC INDEPENDENCE OF HUXLEY

The celebrated Oxford debate at the July meeting of the British Association For The Advancement of Science in 1860 is more significant as myth than as history. John R. Lucas has unmasked the conventional account of the event—a stand up battle between clerical obscurantism and scientific candor—as a late Victorian misrepresentation sponsored in part by Huxley himself. In the legend Wilberforce is supposed to have turned to Huxley and said: "Is it on your grandfather's or on your grandmother's side that you descend from the apes?"⁴⁸ Huxley reports his own response to have been:

If then, said I, the question is put to me would I rather have a miserable ape for a grandfather or a man . . . who employs [great gifts] . . . for introducing ridicule into a serious scientific discussion—I unhesitatingly affirm my preference for the ape.

As Lucas concludes:

'If then, said I, the question is put to me . . .;' But was it? It seems fairly clear that it was not. . . . Wilberforce never turned to Huxley and asked him about his, Huxley's, ancestry, but rather spoke about his own, Wilberforce's descent, either in the first person singular or possibly in the first person plural or third person impersonal.⁴⁹

Lucas notes that had Wilberforce made the comment Huxley attributes to him, there scarcely could have been any disagreement over who got the better of the exchange. Least of all would there have been room for Huxley's own second thoughts about having

⁴⁸John R. Lucas, "Wilberforce & Huxley: A Legendary Encounter," *The Historical Journal*, 22, 2., (1979), 324. See also Sheridan Gilley and Ann Loades, "Thomas Henry Huxley: The War Between Science and Religion," *The Journal of Religion*, Vol. 61, 1981, 285–308. For a beautifully written account of the legend see Irvine, 6–7. As this was going to press a new essay on this encounter has appeared: J. Vernon Jensen, "Return to the Wilberforce-Huxley Debate," *British Journal for the History of Science*, 21 (1988) pp. 161–179.

⁴⁹*Ibid*, 326.

indulged in a personal attack.⁵⁰ While Darwin gave Huxley high marks for what he heard of his exploits at Oxford—and gave him a joshing admonition to always reverence a bishop⁵¹—one of Darwin's (and Hooker's) persistent complaints about Huxley was his penchant for polemical excess.⁵² The scientific hero of the Oxford debate was Hooker. F. W. Farrar, who was an eye witness, noted in a letter to Leonard Huxley:

The speech which really left its mark scientifically on the meeting was the short one by Hooker, wherein he said 'he considered that Darwin's views were true in the field of Botany; and that students should provisionally accept it as a *working hypothesis* in the field of the Animal Kingdom.'⁵³

In fact, the Oxford debate was a useful early triumph. In his letters Darwin refers to it with pride as proving that there were those willing to stand up for his views in public.⁵⁴ As myth, however, the cultural memory of a "warfare" between science and religion symbolized by Huxley's fictive riposte remains a major obstacle to understanding how Darwin, not Huxley, set the tone for his public campaign. As Lucas observes, "the quarrel between reli-

⁵⁰Ibid, 325.

⁵¹LL 2, 117, 3 July & 20 August, 1860. ". . . how durst you attack a live bishop in that fashion? I am quite ashamed of you! Have you no reverence for fine lawn sleeves? By Jove, you seem to have done it well. . . . God bless you!—get well, be idle, and always reverence a bishop." Also, ML 1, 158–59, 5 July, 1860.

⁵²Barlow, 106, ML 1, 89–90 [1856] To Hooker: "I think his tone is much too vehement, and I have ventured to say so in a note to Huxley." ML 1, 74–75, 2 September, 1854, ". . . I cannot think but that you are rather hard on the poor author. . . ." *Calendar* 203, 4404, from J. D. Hooker, 9 February, 1864, "I wish Huxley would not go out of his way to pick quarrels with such cattle as Carter, Blake and Hunt who he magnifies greatly." DAR 10-1:189–92. *Calendar* 205, 4439, From J. D. Hooker, 29 March, 1864, "I think Huxley had better let the anthropologists alone—it was a vicious undignified response of his, which did him harm." DAR 101:1937. *Calendar* 248, 5500, To Ernst Haeckel, 12 April, 1867, "I can call to mind [a] distinct instance in which severity produced directly the opposite effect to what was intended. I feel sure that our good friend Huxley . . . would have had far more [influence] if he had been more moderate and less frequent in his attacks." Haeckel Haus.

⁵³Lucas, 327. According to Hooker, at least, the speech was a marked rhetorical success as well. *Calendar* 137, 2852, From J. D. Hooker, 2 July, 1860.

⁵⁴ML 1, 159–60, To J. D. Dana, 30 July, 1860. "There was much discussion on the subject at the British Association at Oxford, and I had my defenders, and my side seems (for I was not there) almost to have got the best of the battle." See also LL 1, 116–17.

gion and science came about not because of what Wilberforce said, but because it was what Huxley wanted. . . ."⁵⁵

The pioneering work of James Moore in deconstructing the Victorian "warfare" metaphor has demonstrated how the "warfare" image in Huxley and others has obscured attention from the real conflict—the conflict of values and beliefs among individuals—and substituted in its place a picture of a mythical fight between hierarchically ordered "armies."⁵⁶ While Darwin himself certainly used battle imagery, for every reference to battle in his letters there are two references to "conversion." Typically Darwin would refer to his "heterodox" convictions on species and his desire to "convert" others to them.⁵⁷ A minor variant of this vocabulary was introduced by Lyell who described his fear of being "perverted." Darwin in turn occasionally used the term in jest.⁵⁸ When we recall that Darwin's "enemies" were also his friends, even those of his own household, his dominant imagery is consistent with his rhetorical aim. The orthodox religious belief of his wife was a delicate point in his own marriage, and the furthest thing from Darwin's mind was to unnecessarily injure her feelings or those of his many orthodox colleagues and friends.⁵⁹ As far as confronting reli-

⁵⁵Lucas 329. The probability of Lucas' account being correct is strengthened further if we consider Darwin's genial attitude toward Wilberforce and the evidence that it was mutual. Darwin had written to the Vicar of Down the Rev. Brodie Innes, on a parish matter. When the letter reached Innes he was staying at the same house as Wilberforce. In the course of the letter Darwin commented "If you have not seen the last 'Quarterly,' do get it; the Bishop of Oxford has made capital fun of me and my grandfather." When Innes showed the letter to Wilberforce he remarked "I am very glad he takes it that way, he is such a capital fellow." *LL* 2, 118–19 ftn.

⁵⁶James R. Moore, *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America 1870–1900*, (Cambridge: Cambridge University Press, 1979), 77–100.

⁵⁷My statistics are qualitative and are based on *Life and Letters* and *More Letters* plus the examination of unpublished letters in the Cambridge University Library. Typical conversion language is: *Calendar* 148, 3086, To P. L. Sclater 12 March [1861] American Philosophical Society 240. "I am most uncommonly pleased, I can assure you, to hear that you are become 'heretical' on species." *Calendar* 98, 1964, To J. D. Dana 29 September [1856] Sterling. Darwin speaks of ". . . having come to so heterodox a conclusion. . . ." *ML* 1, 119, 6 April, 1859 To A. R. Wallace, "We shall live to see all the younger men converts." *ML* 1, 131, 13 December, 1859 To T. H. Huxley "Farewell my good and admirable agent for the promulgation of damnable heresies." See also *LL* 1, 432, 512, 521, 522.

⁵⁸*LL* 1, 502, 526.

⁵⁹*LL* 2, 104–05, To Asa Gray, "I had no intention to write atheistically." For an excellent example of the audience Darwin wished to avoid offending any more than

gious authority, Darwin was horrified of it. Not Huxley's mythical battle between the scientific David and the religious Goliath, but the subtle diplomacy of Jacob versus Essau prepares us to grasp the kind of tactics Darwin used to convert his culture to his theory.

ASA GRAY AND THE SHAPING OF DARWIN'S STRATEGY OF ACCOMMODATION

The basis of Darwin's policy of religious accommodation was in place well before the Oxford debate. The first edition of the *Origin* was prefaced by two citations from works of natural theology, and the second edition contained a third—from Bishop Butler's war horse against skepticism, his *Analogy of Religion*—and it also included Canon Kingsley's endorsement that Darwin had taught him that God was so powerful that he made all things to make themselves.⁶⁰

Gray was the first defender to exploit fully the rhetorical opportunity Darwin opened. In his two reviews in the *American Journal of Science*, in his address to the American Academy of Science (republished in the *Proceedings of the American Academy of Science and Art*), and in his three essays in the *Atlantic Monthly*, Gray set about reconciling Darwinism with design. Darwin neither believed in Gray's argument nor regarded it as anything less than superbly effective persuasion.⁶¹

absolutely necessary see: *Calendar* 124, 2555, To Adam Sedgwick, 26 November, [1859] Clark & Hughes (1890) 2:359. Darwin speaks of being grieved "to have shocked a man whom I sincerely honor." In a letter to E. B. Aveling (October 13, 1880) *Calendar* 536, 12757 Darwin observed "Possibly I have been too strongly influenced by the thought of the concern it might cause some members of my family, if in any way I lent my support to direct attacks on religion." Ralph Colp, Jr., "The Contacts Between Karl Marx and Charles Darwin," *Journal of the History of Ideas*, 35 (1974) p. 334–335. This letter had been erroneously thought to have been addressed to Karl Marx. See Lewis S. Feuer, "Is the Darwin-Marx Correspondence 'Authentic'?" *Annals of Science*, 32 (1975) p. 1–12, "On the Darwin-Marx Correspondence," *Annals of Science*, 33 (1976) p. 383–394.

⁶⁰Morse Peckham, ed., *Charles Darwin, The Origin of Species: A Variorum Text*, (Philadelphia: University of Pennsylvania Press, 1959), ii., *Calendar*, 124, 2561, To Charles Kingsley, 30 November, [1859] Cleveland. "Thanks CK for allowing him to insert his 'admirable sentence' [in *Origin*, 2d ed., p. 481]."

⁶¹A. Hunter DuPree, ed., *Darwiniana By Asa Gray*, (Cambridge, Massachusetts: Harvard University Press, 1963), 46, 51–71, 72–142. For Darwin's attitude toward

In addition to his need for effective religious defense, Darwin was pressured to make use of Gray's material by Lyell's advice that he maintain a public stance of being above the battle. In a letter to Lyell written in November 1860, Darwin had considered adding an appendix to rebut hostile reviewers in the next edition of the *Origin*. Sensitive to Lyell's cautions about wasting time and psychic energy, he pledged he would "show no sort of anger."⁶² Lyell frowned on the idea, and Darwin not only was left wanting a forum in which to strike back at reviewers, but he also was restrained from doing so by his chosen *persona* as statesman.⁶³ In this context Gray's essays not only offered an effective religious defense, but answered Darwin's desire for action without compromising his appearance of being above the fray.

At first Darwin restricted his promotion of Gray to sending copies of particular essays to various periodicals. Darwin reprinted Gray's refutation of two American critics, Agassiz and Bowen, and sent it to the *Athenaeum*.⁶⁴ When Darwin learned that Gray planned to write more than his first two reviews, he sent elaborate instructions about how he might answer the anatomist Richard Owen, who was suspected of being the author of an essay in the *Edinburgh Review* which Darwin found especially irritating.⁶⁵ Darwin later reprinted Gray's fourth essay—the second of the *Atlantic Monthly* series and sent it to the *Annals and Magazine of Natural History*.⁶⁶ Darwin also mentioned to Lyell the possibility of publishing Gray's essay "Design vs. Necessity," which had appeared in the *American Journal of Science and Arts* (September, 1860) in the *Saturday Review*, and regretted he did not think it would be possible to reprint the final *Atlantic Monthly* (October, 1860) essay in England.⁶⁷ Darwin discussed the same point with Huxley and also offered to pay expenses for reprinting this essay.⁶⁸

Gray's reviews: *LL* 2, 90–91, *LL* 2, 104–05, *LL* 2, 119–20, *LL* 2, 125–27, *LL* 2, 137, *LL* 2, 145–46, *LL* 2, 162–65, *LL* 2, 338, *ML* 1, 192.

⁶²*LL* 2, 141–42, 144.

⁶³*LL* 2, 144. "I find your advice was excellent. I can answer all reviews, without any direct notice of them, by a little enlargement here and there . . ."

⁶⁴*LL* 2, 125, *ML* 1, 169–70, *LL* 2, 145, *Annals and Magazine of Natural History*, (Vol. Vi., 373–86, 1860).

⁶⁵*Ibid.* *LL* 2, 104–107.

⁶⁶*ML* 1, 170, *LL* 2, 145.

⁶⁷*LL* 2, 81. *ML* 1, 169.

⁶⁸*ML* 2, 166.

From the first Darwin was sensitive to potential religious objections and wrote to Gray with evident satisfaction: “. . . several clergymen go far with me.”⁶⁹ As Darwin learned more of Gray’s religious perspective, the theological gulf between the two widened: “I grieve to say I honestly cannot go as far as you do about design.”⁷⁰ Darwin’s regret, however, did not interfere with his strategic planning. Gray offered at one point “. . . to baptize [*the Origin*] *nolens volens*, which will be its salvation. But if you won’t have it done,” he cautioned, “It will be damned I fear.”⁷¹ Whatever may have been Darwin’s doubts about inward invisible grace, his attitude toward an outward visible sign is unmistakable. Having reprinted the second *Atlantic Monthly* essay, and having abandoned the idea of publishing the “Design vs. Necessity” essay in the *Saturday Review*, he wrote Gray in mid-October 1860 to suggest republishing the three *Atlantic Monthly* pieces as a pamphlet.⁷² Later he had second thoughts, not because of scruples but because Murray, his publisher, advised that no one read pamphlets.⁷³ By December, Darwin was resolved that Gray’s essays should be republished, but he was willing to bear only half the cost.⁷⁴ In early January, he wrote Gray stressing the importance of speed and insisted on bearing the whole expense. As though to underscore the importance of quick action, Darwin wrote: “Do not misunderstand me, I am a rich man.” He enclosed a list of twelve periodicals and the names of thirty-two scientists and clerics who should receive copies. Included on Darwin’s international distribution list was the name of Samuel Wilberforce, Bishop of Oxford.⁷⁵ Darwin’s preference for converting rather than confronting his enemies with a clear choice between “science” and religion” could not be more evident. The final sentence in the third edition of the *Origin* which contained the clause “. . . with its several powers, having been originally breathed into a few forms . . .,” was amended to read “. . . breathed by the creator. . . .”⁷⁶ Also new in the third edition,

⁶⁹LL 2, 81.

⁷⁰LL 2, 146.

⁷¹Jane Loring Gray, ed., *The Letters of Asa Gray*, (Boston: Houghton, Mifflin, 1893), Vol. 1., 321.

⁷²*Calendar*, 142, 2955, 19 October, 1860 Gray Herbarium 32.

⁷³*Ibid*, 2961, 24 August, 1860, Gray Herbarium 33.

⁷⁴*Ibid*, 145, 3017, 11 December, 1860, Gray Herbarium 38.

⁷⁵*Ibid*, 146, 3050, 23 January, 1861, Gray Herbarium 12.

⁷⁶Peckham, ii, 57, 759.

notice of Gray's pamphlet was given prominently at the end of Darwin's table of contents: "An admirable . . . Review of this work including an able discussion on the theological bearing of the belief in the descent of species, has now been . . . published by Professor Asa Gray, M.D. . . ." ⁷⁷ This advertisement was never removed, not even after 1868, when in the concluding pages of his two volume *Variation of Animals and Plants Under Domestication*, Darwin rebutted Gray's argument. ⁷⁸

Darwin finished his corrections on the sixth, last, and cheapest edition of the *Origin*, on January 10, 1872. This edition has a glossary of terms especially written for the general non-scientific reader. ⁷⁹ Unless the general reader were a close student of the controversy, he or she would have no way of knowing Darwin did not personally believe Gray's argument—no more so than would the reader of the third edition have known that Darwin privately dissented from the essays he publicly recommended.

Darwin's letters to Gray in 1861 show Darwin understood with unmistakable clarity the rhetorical utility of Gray's pamphlets. In an unpublished letter written in March of 1861, Darwin wrote:

I . . . have received before this [the] Bill of 7L 10s—Your pamphlet will do the subject *very great* [double underscoring] good, . . . whether or not it sells.—I have had many letters about it, all full of praise—'truly admirable' says one, 'I am lending my copy to one person after another.' Another says 'he read nothing on the subject with anything like the satisfaction'—another says he (ie you) 'is a cunning fencer & believes in you entirely'. ⁸⁰

In another letter Darwin observed: "Just to exemplify the use of your pamphlet, the bishop of London was asking Lyell what he thought of the review in the 'Quarterly,' and Lyell answered 'Read Asa Gray in the 'Atlantic.'" ⁸¹

Other letters indicate that Gray's pamphlets were having the desired effect on specialist readers. In a letter in June of 1861 Darwin reported to Gray: "I sent a copy to Sir J. Herschel, and in his new edition of his 'Physical Geography,' he has a note on the 'Ori-

⁷⁷ *Ibid.*, 57.

⁷⁸ Charles Darwin, *The Variation of Animals and Plants Under Domestication*, (New York: Appleton, 1868), Vol. 2., 515, 516. See also: *LL* 2, 256, 266–67.

⁷⁹ *LL* 2, 331.

⁸⁰ *Calendar* 148, 3087, 12 March, 1861, Gray Herbarium 53.

⁸¹ *LL* 2, 163.

gin of Species,' and agrees, to a certain limited extent, but puts in a caution on design—much like yours. . . ." The letter continues: "I have been led to rethink more on this subject of late, and grieve to say that I come to differ more from you."⁸²

In the preface to his reprint of the collection of Gray's essays entitled *Darwiniana*, originally compiled and reprinted in 1876, A. Hunter Dupree, Gray's, biographer, reflected: "Had [Gray's arguments] . . . gained a secure place on Darwin's banner, Gray rather than Huxley might have set the strategy of Darwinism. . . ."⁸³ What Dupree poses as a might have been, in fact is how things were. As for making a difference, Charles Darwin and his advisor Charles Lyell thought Gray's pamphlet was just the ticket. Confusion over Gray's historical role as the architect of Darwin's religious strategy is bound to occur if one does not sharply distinguish Darwin's personal agnostic religious philosophy from his strictly rhetorical strategy.

DARWIN'S RECRUITMENT OF NEW THIRD PARTIES

With the publication of Gray's pamphlet, Darwin's attention increasingly turned to the recruitment of third parties beyond his inner guard of Lyell, Hooker, Huxley, and Gray. His efforts reveal a balance between promoting the kind of literature that would appeal to generalists and the kind that would appeal to specialists. In December 1859, Darwin wrote Gray: ". . . I think it of importance that my notions should be read by intelligent men, accustomed to scientific argument, though *not* naturalists. . . . I think such men will drag after them those naturalists who have too firmly fixed in their heads that a species is an entity."⁸⁴

Darwin seemed to have found in W. F. Bates another colleague who, like Huxley and Gray, could command both scientific respect and a popular readership. In response to a letter Bates had written him in April of 1861, Darwin expressed his admiration for Bates' varied knowledge of natural history and suggested that Bates write something for a technical audience and also for a gen-

⁸²LL 2, 165–66. See also ML 1, To Charles Lyell 21 August, 1861, 194, "I must think that such views of Asa Gray and Herschel merely show that the subject in their minds is in Comte's theological stage of science. . . ."

⁸³DuPree, xix.

⁸⁴LL 2, 39.

eral one: "I earnestly hope you will find time to publish largely: before the Linnean Society you might bring boldly out your views on species. Have you ever thought of publishing your travels, and working in them the less abstruse parts of your Natural History? I believe it would sell, and be a very valuable contribution to Natural History."⁸⁵

In due course Bates sent Darwin chapters of his travels in the Amazon, and Darwin offered his critique, especially on style and on the proposed physical lay out of the text. Darwin recommended the book to Murray, his publisher and the book appeared in 1863.⁸⁶

The usefulness of Bates scholarly monograph, "Contributions to an Insect Fauna of the Amazon Valley," *Transactions of the Linnean Society* 23 [1862]"495–566 and his popular book *The Naturalist on The River Amazons* (1863), was further illustrated in the points Darwin stressed in his review of the one and in his allusions to the other in an essay appearing in the *Natural History Review*.⁸⁷ Darwin presented a tightly reasoned argument which charmingly brought to the reader's attention the implications of Bates' monograph for transmutation and against special creation. The chief scientific advance of Bates' monograph was its study of how one species of butterfly mimicked another and thus escaped predation. Protected from direct controversy by his role of reviewer, Darwin was at the height of his polemical form.

By what means, it may be asked, have so many butterflies of the Amazonian region acquired their deceptive dress? . . . Hence the creationist will have to admit that some . . . have been created in imitation of forms not themselves created as we now see them, but due to the laws of variation! . . . Not many naturalists will be content thus to believe that varieties and individuals have been turned out all ready made, almost as a manufacturer turns out toys according to the temporary demand of the market. . . . we rejoice to see by the advertisements that Mr. Bates will soon publish an account of his adventures and his observations in natural history. . . . We believe that this work will be full of interest to every admirer of Nature.⁸⁸

⁸⁵ *ML* 1, 182.

⁸⁶ *Calendar* 158, 3345, 15 December, 1861, Leeds. See also: *LL* 2, 171–72. Letter to Murray: *Ibid*, 161, 3415, 28 Jan, 1862, Murray Archive. "H. W. Bates is at C.D.'s urging writing a book of travel and natural history. C.D. suggests JM might be interested in publishing it. Recommends HWB and his MS highly."

⁸⁷ Barrett, *Collected Papers*, 87–92.

⁸⁸ *Ibid*, 90–92.

No reader of the review would suspect Darwin had any connection with the forthcoming publication of Bates' book, let alone that he had solicited the manuscript, edited it, and contacted the publisher.⁸⁹

Another author who, like Bates, bridged the generalist/specialist gap was Darwin's German correspondent, Fritz Muller. In 1864, Muller published *Für Darwin*, a work which summarized the general case for Darwin's theory and rebutted miscellaneous criticisms directed against it. In 1869, Darwin had it translated by W. S. Dallas, updated, and published by Murray at his own expense (*Facts and Arguments For Darwin*, 1869). Darwin instructed Murray to bind the book in the same style as the *Origin*.⁹⁰ The year previous, Lyell, in the tenth edition of his *Principles of Geology*, gave his clearest endorsement to Darwin's perspective⁹¹ and in 1869, Carl Vogt declared in his Presidential Address to the National Institution of Geneva: "No person in Europe at least, dares any longer to maintain the doctrine of the independent and unmodified creation of species."⁹² The time, in short, was right for a semi-popular work to sum things up. Although one of Darwin's letters indicates that he regarded parts of Muller's work potentially too heavy for the general public,⁹³ on the whole he seemed satisfied with his investment even though *For Darwin* was not a commercial success.⁹⁴

While Muller's semi-popular work was an important tactical advance for Darwin's campaign, Muller's specialized work was a regular staple. Darwin had no fewer than six of Muller's technical notes translated and published in *Nature*. As Darwin noted in a letter to Muller, even technical work would potentially help popularize the cause: ". . . I have sent your letter to *Nature* with a few prefatory remarks, pointing out to the general reader the importance of your view. . . . If, as I am inclined to believe, your view can be widely extended, it will be a capital gain for the doctrine of evolution."⁹⁵

A third author who, like Huxley, Gray, Bates, and Muller,

⁸⁹See note #96.

⁹⁰F. B. Freeman, *Charles Darwin: A Companion*, (Folkstone, Kent, England: Wm. Dawson & Sons Ltd., Cannon House, 1978), 210–11. See also *LL* 2, 269.

⁹¹*LL* 2, 295.

⁹²Cited in: Charles Darwin, *The Descent of Man*, Vol. I., (New York: J. A. Hill & Co., 1904), Vol. I., 1.

⁹³*ML* 1, 312.

⁹⁴*ML* 2, 92.

⁹⁵*ML* 1, 382–83, also Freeman, 211.

bridged the specialist/generalist gap was G. J. Romanes. Representative of the publications through which Romanes carried forward Darwin's program in the 1870s is a lecture Romanes gave in Scotland before the Philosophical Society of Ross-shire. In response to a manuscript of his talk, "The Scientific Evidence of Organic Evolution," which Romanes sent to Darwin, Darwin inquired: "Would it be worthwhile to try if the *Fortnightly* would republish it?" The lecture was republished twice, first in the *Fortnightly* and then, in elaborated form, as a book under the same title.⁹⁶

Other authors whom Darwin encouraged were either generalists or specialists exclusively. In 1871, when Darwin's son George gave his father a copy of some lectures of Herbert Spencer's American disciple and popularizer, John Fiske, Darwin wrote the author complaining that the type was too small and suggested: ". . . I wish that you would reflect on their separate publication. . . . I do not think I have ever seen the general argument more forcibly put so as to convert unbelievers."⁹⁷

Even with technical work, Darwin always seemed to have had his eye out for persuasive impact. In a letter to Bates in connection with Bates' Linnean monograph, Darwin observed: "I am convinced (Hooker and Huxley took the same view some months ago) that a philosophic view of nature can solely be driven into naturalists by treating special points as you have done."⁹⁸ Darwin repeated the same point in a letter to Wallace in 1866 in reference to Wallace's paper on "Geographical Distribution & Variability of Maylay Papilionidae": "Such papers will make many more converts among naturalists than long-winded books such as I shall write if I have strength."⁹⁹ Writing to D. T. Anstead in 1860 to congratulate him for his accurate exposition of Natural Selection, Darwin observed: "I can see plainly, by your new illustrations . . . that you thoroughly comprehend the subject. I assure you this is most gratifying to me, and it is the sole way in which the public can be indoctrinated."¹⁰⁰

Darwin did not simply praise effective technical expositors of evolution for, as we have seen in the case of Bates, he also solicited specialized papers. In April of 1861, Darwin wrote Thomas David-

⁹⁶ML 1, 379.

⁹⁷ML 1, 333–34.

⁹⁸LL 2, 170–71.

⁹⁹ML 1, 265.

¹⁰⁰ML 1, 175.

son urging him to engage in a detailed study of Brachiopods. Darwin explained that, in the *Origin*, he argued that any group would be expected to be "intermediate in character between that of the formations above and below." What was needed, Darwin argued, was for this intermediate character to be worked out in detail with reference to some special group. "The result," he observed, "might turn out very unfavorable to the views which I hold; if so, so much the better for those who are opposed to me."¹⁰¹ Darwin had reason to believe that detailed work would confirm his views and in a letter to Robert Chambers observed: "Mr. Davidson is not at all a full believer in great changes of species, which will make his work all the more valuable."¹⁰² Davidson's work was duly published by the Paleontological Society, and his results were given a wider readership by Lyell in the *Antiquity of Man*.

One of the most remarkable specialized papers Darwin solicited was from John Scott of the Botanical Gardens of Edinburgh. Scott had written Darwin shortly after publication of his *Fertilization of Orchids* (1861), calling attention to Darwin's error in regarding *Acropera* as unisexual with only male flowers. Through his own experiments, Scott established that *Acropera* has both male and hermaphrodite flowers.¹⁰³ A detailed and lengthy correspondence developed between them, which focused on technical questions of variation and fertilization which had direct import for Darwin's theory.

Not only were Scott's findings of use to Darwin in subsequent editions of his orchid book and in his *Variation of Animals and Plants Under Domestication*, but Darwin encouraged Scott to publish material in his own right "to get your name well known."¹⁰⁴ Scott required considerable urging, but Darwin volunteered his services as editor for Scott's manuscript and made detailed stylistic and organizational suggestions. Included among Darwin's tips to Scott is the remarkably frank suggestion:

I would suggest to you the advantage, at present, of being very sparing in introducing theory in your papers . . . let theory guide your observations, but till your reputation is well established be sparing in publishing theory. It makes persons doubt your observations.¹⁰⁵

¹⁰¹ *LL* 2, 158–59.

¹⁰² *LL* 2, 159.

¹⁰³ *ML* 2, 302–06.

¹⁰⁴ *ML* 2, 316.

¹⁰⁵ *ML* 2, 313.

This comment is especially noteworthy because Scott's paper reads as though its author were primarily interested in observations, but the whole *raison d'être* of the paper is its service to Darwin's theoretical interests. The paper, which he patiently extracted from Scott, Darwin finally judged good enough for the Linnean Society, to which he submitted it. He also proposed Scott for an associate membership in the society¹⁰⁶ and took elaborate steps to get Scott's publication—which offered a highly technical proof for the evolution of a new plant species—noticed on both sides of the Atlantic. Writing to Hooker in September of 1864 Darwin observed: “. . . It ought to be noticed in the *Natural History Review*, otherwise the more remarkable facts will never be known. Try to persuade Oliver to do it; with the summary it would not be troublesome.” Darwin then enclosed his own summary of the main points of the article and offered to send Hooker's assistant, Oliver, a separate copy of the essay with the important passages marked.¹⁰⁷

On the same day that he wrote Hooker, he also wrote Asa Gray urging him to notice Scott's paper in the *Journal of the American Academy of Science*. In his letter to Gray, Darwin repeated the editorial invitation he had made to Hooker and included a summary of the main points, adding that Scott's paper established was the fact of a new “physiological species.”¹⁰⁸

THE MIVART, THOMSON AND BUTLER EPISODES

Following the theological course correction Darwin set in place by his publication of Gray's pamphlet, most of Darwin's recruitment of new third parties, as we have just noted, focused on specialized studies and popularizations. Two rhetorical emergencies, the Mivart and Butler episodes, required fresh strategic planning, and, along with a brief rebuttal Darwin wrote to Wyville Thomson, they reveal Huxley's changing role in Darwin's later campaign.

The publication of George Jackson Mivart's *Genesis of Species* in 1871, a few months before the publication of Darwin's own *Descent of Man*, alarmed Darwin as had few other works. Mivart argued that incipient structures (half a wing) could be of no survival value and hence could not be accounted for on the basis of natural selec-

¹⁰⁶ ML 2, 326.

¹⁰⁷ ML 2, 327.

¹⁰⁸ ML 2, 327–28.

tion.¹⁰⁹ Darwin took Mivart's criticisms so seriously that he added an entire chapter to the sixth and final edition of the *Origin* to answer them.

While the sixth edition of the *Origin* was in preparation, Darwin needed someone to defend him. To fill the gap, he republished an essay by Chauncy Wright. In a letter to Wallace (July 12, 1871), Darwin complained of an essay he was sure Mivart had written in the *Quarterly Review* for July of 1871.

I shall soon be viewed as the most dispicable of men. This 'Quarterly Review' tempts me to republish Ch. Wright, even if not read by any one, just to show someone will say a word against Mivart. . . . I do so hate controversy and feel I shall do it so badly.¹¹⁰

Reluctant as Darwin may have been to rebut Mivart himself, he lost little time arranging for republication of Wright's pamphlet. Two days later he wrote to Wright asking for ". . . permission to reprint your article as a shilling pamphlet?"¹¹¹ The pamphlet was published that Fall, and in a letter written on October 24 thanking Wright, Darwin added: "I am sure it will do our cause good service; and this same opinion Huxley has expressed to me."¹¹²

Huxley also took his turn at rebutting Mivart, who, as it happened, was his former student, and what was worse, a former Darwinian.¹¹³ As Himmelfarb puts it ". . . Huxley treated him with the special contempt reserved not for the enemy but for the traitor."¹¹⁴ Huxley knew how deeply Darwin was bothered by Mivart's critique and Mivart's ascerbic language.¹¹⁵ As Darwin's religious friends were Protestants, and as Mivart was a Catholic, there was

¹⁰⁹Peter J. Vorzimmer, *Charles Darwin: The Years of Controversy*, (Philadelphia: Temple University Press, 1970), 226–227.

¹¹⁰*LL* 2, 326.

¹¹¹*Ibid*, 325.

¹¹²*Ibid*.

¹¹³Jacob W. Gruber, *A Conscience In Conflict: The Life of St. George Jackson Mivart*, (New York: Columbia University Press, 1960), i–vii.

¹¹⁴Himmelfarb, 361.

¹¹⁵*LL* 2, 326–29, Huxley's essay appeared in the November issue of *Contemporary Review*. On 21 September, 1871 Darwin wrote to Huxley "What a wonderful man you are to grapple with those old metaphisico-divinity books. It quite delights me that you are going to some extent to answer and attack Mivart. His book, as you say, has produced a great effect; yesterday I perceived the reverberations from it, even from Italy. It was this which made me ask Chauncy Wright to publish at my expense his article, which seems to me very clever, though ill-written. He has not knowledge

no one important to Darwin for Huxley to offend, and so Darwin gave his nod and the “bull dog” was unleashed. In his answer to Mivart, published in the *Contemporary Review*, Huxley made light of Mivart’s acceptance of evolution, including the animal ancestry of man, brusquely dismissed Mivart’s technically informed scientific critique, and fastened on Mivart’s brief closing assertion that the Roman Catholic Church had no objection to creation by derivative means.¹¹⁶ Huxley argued with great wit, erudition, and irrelevance that Mivart’s chief theological source—Suarez—argued the reverse of what Mivart had claimed. The spite that motivated Huxley was well expressed in the concluding section: “In addition to the truth of the doctrine of evolution, . . . one of its greatest merits in my eyes, is the fact that it occupies a position of complete and irreconcilable antagonism to that vigorous and consistent enemy of the highest intellectual, moral, and social life of mankind—the Catholic Church.”¹¹⁷

Darwin was delighted with Huxley’s review.¹¹⁸ Mivart, however, did not stay quiet. In 1874, Darwin’s *Descent of Man* went through a second edition, and in a review, Mivart not only criticized Darwin’s view of man, but made the fatal error of taking a swipe at an essay Darwin’s son George had written. Darwin was absolutely furious.¹¹⁹ This time, however, Huxley did not rise to defend Darwin in public; he urged Darwin instead to keep his anger private, and attempted to mediate between the two. The “apology”

enough to grapple with Mivart in detail. I think there can be no shadow of a doubt that he is the author of the article in the ‘Quarterly Review’ . . . I never dreamed that you would have time to say a word in defence of the cause which you have so often defended.”

¹¹⁶ Bartholomew, 534.

¹¹⁷ Thomas Henry Huxley, *Darwiniana*, (New York: D. Appleton & Co., 1896), 147.

¹¹⁸ *ML* 1, 333. 4 October, 1871 To J. D. Hooker “I am not so good a Christian as you think me, for I did enjoy my revenge on Mivart.”

¹¹⁹ Darwin’s antipathy to Mivart was partially personal and partially scientific. Mivart criticized George Darwin’s eugenics essay “On Beneficial Restrictions to Liberty of Marriage,” (*Quarterly Review*, 137 (1874): 40–77), on grounds of encouraging both tyranny and sexual license. Having failed to secure a satisfactory apology, Darwin broke off all further communication with him. *Calendar*, 421, 9812, 12 January, 1875 DAR 97 (ser. 3):36, See also *Calendar* 419, 9769, 22 December, 1875, DAR 145, *Ibid*, 420, 9776, 24 December, 1874, Imperial College (Huxley 5:311), *Ibid*, 421, 9804, 6 January, 1875, *Ibid*, 98113, 12 January, 1875, DAR 145. also, Barlow, 125–26, *Irvine*, 199.

Huxley secured was equivocal, and contrary to Huxley's advice, Darwin wrote to Mivart breaking off all further contact with him.¹²⁰ Wallace wrote an independent and technically informed rebuttal of Mivart in the summer of that same year (1875).¹²¹

Beginning roughly with the second round of the Mivart episode, the relationship between Darwin and Huxley seemed to change. Now it seemed that Darwin was the one needing restraint, and Huxley increasingly was the one offering sage counsel. On two other occasions, once alone and once in the company of others, Huxley urged Darwin toward a policy of moderation or silence. In 1880, Huxley urged Darwin to delete a needlessly offensive line in an already caustic letter to *Nature* rebutting an essay by Sir Wyville Thomson on Natural Selection. Part of the offending line read ". . . a man who talks about what he does not in the least understand is invulnerable."¹²²

A strategy of silence was pressed upon Darwin, over his objections, but this time successfully, by Huxley, Hooker, Darwin's family and various friends in the much debated Samuel Butler episode. Butler was convinced, correctly, that an essay by Dr. Ernest Krause had been amended in translation to contain an attack on his (Butler's) *Evolution Old and New*. Darwin failed to state in his preface to his short book, *Life of Erasmus Darwin*, which contained Krause's translated essay, that the essay had been altered. When he became aware of his error Darwin apologized to Butler in a private letter. But Butler's belief that he was the victim of a plot was unshakeable. Though Darwin wished to answer Butler publicly, Darwin's family and advisors urged silence. Not until the appearance in 1911 of the pamphlet, "Charles Darwin and Samuel Butler: A Step Towards Reconciliation," by Butler's biographer, Henry Festing Jones, with the cooperation of Francis Darwin, was the dispute layed to rest.¹²³

CONCLUSION

This essay has examined the genesis and development of Darwin's "third party" strategy—his attempts to recruit able defend-

¹²⁰ *Ibid.*

¹²¹ *LL* 2, 362–63.

¹²² *ML* 1, 388–89.

¹²³ For a brief account of the controversy see Barlow, 167–73. For the pamphlet 174–219.

ers, make use of their advice and publicize their works. Our examination, while not exhaustive, has been broadly representative, and it has several implications for our understanding of the rhetoric of the Darwinian revolution.

First, and most obviously, the traditional picture of Darwin as a rhetorical bystander passively dependent on whomever would step forward to defend him is plainly false. Charles Darwin did not play a passive role in his own defense, for he actively sought the advice of third parties, arranged for them to defend him, and solicited, promoted, and even paid for their work. Further, Darwin became so active as a rhetorician that his friends on at least four separate occasions attempted to restrain him: Lyell successfully, when Darwin wished to depart from the third party strategy and rebut reviewers directly in an appendix to the *Origin*, Huxley unsuccessfully, in the second round with Mivart, and successfully in the Wyville Thomson rebuttal and in the Butler incident. Darwin's use of third parties makes him a primary example of the importance of understanding the term "rhetor" as embracing both the individual who speaks, writes, or acts to advance a particular cause, and the person who organizes others to speak, write, or act for him.

Second, Darwin's religious strategy, far from being defined by Huxley as Dupree has affirmed, was designed by Darwin himself—though in its final form it was also a tactical response to circumstances. Initially, through his references on the fly-leaf of the *Origin* to works of natural theology, Darwin offered his readers an ambiguous reassurance that his book was within the tradition its argument seemed to challenge. Following Huxley's gratuitous attack on Wilberforce at Oxford and the increasing theological pressure he experienced in the opening year of the controversy, Darwin quietly broadened his third party defense to include supporters who would not give needless offense. In the American botanist Asa Gray, Darwin found a champion who understood natural selection as well as he did himself¹²⁴ and who could gain Darwin a broader hearing than Huxley, since Gray encompassed rather than offended entrenched religious beliefs. That Darwin made calculated use of Gray's pamphlets to render his views theologically acceptable and that he took satisfaction in their evident success is undeniable. The other defenders Darwin lined up to support him, from William Bates through G. J. Romanes, were almost uniformly

¹²⁴ML 1, 169.

solid on natural selection and were either silent or non-combative on religion.

The one exception to Darwin's distancing himself from Huxley's *odium antitheologicum* is the Mivart episode. Darwin's delight in Huxley's *ad hominem* response reveals something of a polemical double standard. Gray's religious strategy was Protestant in origin, and in any event, Darwin's use of it was grounded not in what Darwin believed, but in his assessment—accurate as it turned out—of what a largely Protestant public would be likely to believe. Mivart's Roman Catholicism, however, placed him outside Darwin's target audience, and Darwin dealt with him accordingly.

Third, our analysis explains why Darwin has so long remained an invisible rhetorician. If Darwin has remained rhetorically invisible to others it is in part because—despite his conscious planning—the role of rhetorician crept up on him almost unawares. In a sense Darwin evolved into a rhetorician by adapting to a series of changing rhetorical environments. As the exigencies of his early scientific speculation increasingly gave way to the exigencies of composition and finally of persuasion, Darwin found himself choosing among friends, among options, and among values without realizing how far he had come from his early days of "private" research and discussion with a few trusted friends. Darwin's rhetorical situation was thus emergent and may be usefully understood as defined by two motives: His desire to receive recognition from his peers and the public for having discovered the biological equivalent of the law of gravity, and his desire to embody conventional values and to live at peace with himself, his family, and friends. Darwin resolved the conflicts between the public and private phases of his campaign tactically as they emerged, but never reflectively. As a result, Darwin's picture of himself, and our dominant picture of him, as a pure scientist, slow at writing, poor at arguing, concerned only with the truth or with the judgment of a small group of experts and indifferent to public opinion, is a picture taken in the earlier part of his career and is irreconcilable with his motives and actions in the years of public controversy. Darwin's self-image ignores his extensive efforts to proseletize, to simplify the bases for believing in evolution, and to broaden his base of support. Darwin's failure to integrate his rhetorical action with his self-understanding as a scientist has powerfully reinforced a positivist interpretation of his achievement as merely the inevitable consequence of a superior account.

Finally the study has implications for our understanding of the ethics of scientific rhetoric. Given that science and civilization exist in an interdependent relationship, how far is it legitimate for science to mask its opposition to dominant cultural values? To what extent does the ethic of science demand truthfulness, when the price of truth may be a temporary, or perhaps even sustained, reaction against a particular scientific theory? In his use of Gray's essays, does Darwin's encouragement of the public to draw a theological conclusion beneficial to his persuasive aim, but counter to his personal convictions, make him cynical or dishonest? Or should we see him as acting to create a cultural environment beneficial to science and perhaps in time conducive to a more enlightened understanding of religion? It seems that however we interpret Darwin's rhetorical strategies and tactics, we are left with the discomfiting realization that Darwin the historical truth bearer was not always Darwin the historical truth teller.

The ethical obligation peculiar to rhetoric is to give truth effective advocacy. Perhaps the clearest evidence of the success of Darwin's third party strategy appeared in an essay in the *Saturday Review* for March 4, 1871. In it the reviewer commenting on the progress of Darwin's central thesis, noted how it was ". . . upborne . . . by a phalanx of names full of distinction and promise in either hemisphere."¹²⁵ Certainly many, perhaps most, of Darwin's scientific supporters were volunteers; yet a very substantial core he himself recruited with the intention of producing exactly the effect the reviewer observed. It would seem that rhetorically passive scientists, such as Lamarck, Wallace, or Mendel—who lack highly placed champions and who make no efforts to have their views popularized—while not doomed to have their ideas lost to history, rarely live to see their names given to revolutions.¹²⁶

¹²⁵ *LL* 2, 319, see also note 115.

¹²⁶ That Lamarck suffered from problems of timing and the internal politics of his institutional scene see: Richard W. Burckhardt Jr., "Lamarck, Evolution & The Politics of Science," *Journal of the History of Biology*, Vol. 3. no. 2 (Fall, 1970), 275–298. For the case of Wallace see: Brooks 258–68. For Mendel I will relay an anecdote. In September, 1985 I had a brief conversation at the Cambridge University Library with the reknowned Mendel scholar Vitezslav Orel. I asked Prof Orel if it would be accurate to say that Mendel was a good example of the fate of scientists who do not take rhetoric seriously. His answer was concise. "Exactly!"