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Return to the Wilberforce–Huxley Debate

J. VERNON JENSEN*

One hundred and twenty-eight years ago in the historic city of Oxford a relatively brief impromptu verbal exchange at a scientific convention occurred. It is still vividly remembered in and out of academia. This so-called 'debate' between the Bishop of Oxford, Samuel Wilberforce, and the young scientist, Thomas Henry Huxley, a simple and concrete episode, has continued to symbolize dramatically the complex and abstract phenomenon of the conflict between science and religion in the late nineteenth century. While that symbol may be somewhat inaccurate, or its relevance may have shifted from a century ago,[1] it still is a powerful image, one which continues to be an important part of the religious, scientific and rhetorical history of the late Victorian era. Moore recently wrote: 'No battle of the nineteenth century, save Waterloo, is better known.'[2] It is, as Altholz put it, 'one of those historical events the substance and significance of which are clear, but whose specifics are decidedly fuzzy around the edges.'[3] It is the purpose of this paper to present a full and balanced view of the specific ingredients, permitting a better insight into the event's symbolism and significance.

The British Association for the Advancement of Science held its 30th annual conference in Oxford,[4] 27 June to 4 July 1860, with about 1700 in attendance.[5] Some business meetings, exhibits and lectures were in the Town Hall, the Clarendon Building and the Convocation House, and some general sessions in the Sheldonian Theatre, but most sectional meetings were in the new University Museum. The reporter covering the convention for *The Press*, a London weekly, wrote at the end of the gathering: 'The theory of Dr Darwin . . . on the origin of species by natural selection, gave rise to the hottest of all debates.'[6]

1 See, for instance, the work of A. MacC. Armstrong, 'Samuel Wilberforce *versus* T.H. Huxley: a retrospect', *The Quarterly Review*, (1958), **296**, pp. 425–437; J.R. Lucas, 'Wilberforce and Huxley: a legendary encounter', *The Historical Journal*, (1979), **22**, pp. 313–3 → Sheridan Gilley and Ann Loades, 'Thomas Henry Huxley: the war between science and religion', *The Journal of Religion*, (1981), **61**, pp. 285–308; Sheridan Gilley, 'The Huxley–Wilberforce Debate: a reconstruction', in *Religion and Humanism*: Papers read at the Eighteenth Summer Meeting and the Nineteenth Winter Meeting of the Ecclesiastical History Society (ed. Keith Robbins), Oxford, 1981, pp. 325–340. Approximately the first 40% of the last two sources are identical, except for very minor differences.

2 James 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, 1979, p. 60.

3 Joseph L. Altholz, 'The Huxley–Wilberforce Debate revisited', *Journal of the History of Medicine and Allied Sciences* (1980), **35**, p. 314.

4 The British Association had met in Oxford on two previous occasions, 1832 and 1847.

5 *Jackson's Oxford Journal*, 7 July 1860, p. 4; Roy MacLeod and Peter Collins, eds, *The Parliament of Science*, 1981, Northwood, Middlesex, p. 280.

6 7 July, 1860, p. 656. See also *The Athenaeum*, 7 July p. 19.

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Before we discuss the conference it is necessary to sketch the eight months prior to it, for they contributed significantly to the excitement and tension felt in the meetings. In November 1859 Charles Darwin's *On the Origin of Species* was published in London by John Murray,[7] and by 1 December one Oxford scientist wrote, 'We are all reading Darwin'.[8] Soon reviews, articles and lectures reacting to it poured forth. Huxley, a close friend of Darwin and generally familiar with his work, wrote to him on 23 November 1859:

> I finished your book yesterday . . . I am ready to go to the stake, if requisite, in support of . . . [most of it] . . . And as to the curs which will bark and yelp, you must recollect that some of your friends . . . are endowed with an amount of combativeness which . . . may stand you in good stead. I am sharpening up my claws and beak in readiness.[9]

His beak would be used in Oxford and elsewhere, and his claws were soon employed in writing an article for the December 1859 *Macmillan's Magazine,* in which he spoke very favourably about Darwin's book and commented:

> I observe that already the hastier sort of critics have begun, not to review my friend's book, but to howl over it in a manner which must tend greatly to distract the public mind. No one will be better satisfied than I to see Mr Darwin's book refuted, if any person be competent to perform that feat; but I would suggest that refutation is retarded, not aided, by mere sarcastic misrepresentation.[10]

That was also to be his essential message the following June in Oxford, that is, that incompetent critics were distracting the public through sarcasm. Huxley's lengthy, highly complimentary anonymous review appeared in the 26 December issue of the *Times.*[11] Ecstatic over such a favourable review, Darwin wrote immediately to Huxley, assuming with confidence that he was the author:

7 The 1250 copies were sold immediately; 3000 more were published in January 1860, 2000 in April 1861, and more than 6000 in the next decade [Sir Gavin de Beer, *Charles Darwin: Evolution by Natural Selection,* London, 1963, p. 279; Francis Darwin, ed., *The Life and Letters of Charles Darwin,* 2 vols, New York, 1899, II, 1, p. 149 (hereafter cited as *Darwin*]. Darwin had arranged for the publisher to send copies to a number of key scientists. For some interesting rhetorical analyses of Darwin's works, see John Angus Campbell, 'Darwin and *The Origin of Species*: the rhetorical ancestry of an idea', *Speech Monographs,* (1970), **37,** 1–14; 'Charles Darwin and the crisis of ecology, a rhetorical perspective', *Quarterly Journal of Speech,* (1974), **60,** pp. 442–449; 'The polemical Mr Darwin', *Quarterly Journal of Speech,* (1975), **61,** pp. 375–390; Barbara Warnick, 'a rhetorical analysis of episteme shift: Darwin's *Origin of the* [sic] *Species', Southern Speech Communication Journal,* (1983), **49,** 26–42.

8 George Rolleston to John Lubbock, 1 December 1859, B.L. Add. MSS 49638, *Lubbock Letters,* fol. 175.

9 Leonard Huxley, *Life and Letters of Thomas Henry Huxley,* 2 vols, New York, 1916, I, pp. 188–189 (hereafter cited as *Huxley*). Throughout, it should be realized, as Michael Bartholomew, 'Huxley's defence of Darwin', *Annals of Science,* (1975), **32,** p. 529, emphasizes, Huxley was defending a *person*—his friend—as well as an *idea.*

10 Page 146. Darwin immediately wrote to Huxley: 'You have explained my leading idea with admirable clearness. What a gift you have of writing (or more properly) thinking clearly' (*Darwin,* II, p. 34).

11 For Huxley's account of how he was, by chance, given the opportunity to write the review, and how hastily he wrote it, see *Huxley,* I, p. 189–190; *Darwin,* II, 49–50; Huxley to Hooker, 31 December 1859, *Huxley Papers* (Imperial College of Science and Technology, South Kensington), vol. ii, fols 57–58.

> . . . there [is] only one man in England who could have written this essay, and . . . *you* [are] the man . . . Well, whoever the man is, he has done great service to the cause, far more than by a dozen reviews in common periodicals. The grand way he soars above common religious prejudices, and the admission of such views into the Times, I look at as of the highest importance.[12]

The months in 1860 prior to Oxford saw much controversy over Darwin's book. Early in January Charles Lyell, the famous geologist and close friend of Darwin, wrote to an American correspondent that Darwin's book was stirring up much discussion in scientific, literary and theological circles.[13] Early in February Huxley delivered a lecture at the prestigious Royal Institution, which Francis Darwin later called 'one of the most eloquent of [Huxley's] utterances in support of the "Origin of Species"'.[14] By February Darwin had heard that Bishop Wilberforce, who had earlier expressed dissatisfaction with Huxley's *Times* review, had said that the *Origin* was 'the most unphilosophical work he [had] ever read'.[15] An older scientist, Reverend Adam Sedgwick, Darwin's geology professor at Cambridge, wrote a strongly worded anti-Darwin article in *The Spectator* of 24 March, and another conservative, Professor Richard Owen, Superintendent of the Natural History Department of the British Museum, perhaps the leading anatomist in England and a person whom Huxley had disliked for a decade,[16] wrote a bitter criticism of the *Origin* in the *Edinburgh Review*.[17] Huxley wrote a counter essay in the April *Westminster Review*,[18] which Darwin called *'brilliant'*.[19] Early in May Darwin's work was strongly attacked at the Cambridge Philosophical Society by such conservatives as Owen and Sedgwick. Darwin reacted in a letter to his close friend, Joseph Dalton Hooker, a famous botanist: 'As for the old fogies in Cambridge, it really signifies nothing. I look at their attack as a proof that our work is worth the doing'.[20] Throughout this period and later, Darwin was deeply appreciative for the support given him by Huxley, Hooker, Lyell and a few others; he was sorry for the trouble he was

12 *Darwin*, II, 47–48. Darwin was amazed that the *Times* would devote 3½ columns to the review of a science book. Eleven months later, Darwin wrote to Huxley: 'I shall always think those early reviews, almost entirely yours, did the subject an *enormous* service'. Italics his. Ibid., p. 144. Darwin's son and biographer, Francis Darwin, later wrote: 'There can be no doubt that this powerful essay, appearing as it did in the leading daily Journal, must have had a strong influence on the reading public', Ibid, p. 49.

13 Lyell to George Ticknor, 9 January 1860, in Mrs Lyell, ed., *Life, Letters and Journals of Sir Charles Lyell*, 2 vols, London, 1881, II, p. 329 (hereafter cited as *Lyell*).

14 *Darwin*, II, p. 76. See also, Royal Institution, *Journals of Thomas Archer Hirst* (hereafter cited as *Hirst Journals*), vol. iii, fol. 152.

15 *Darwin*, II, p. 79.

16 See Mario A. di Gregorio, *T.H. Huxley's Place in Natural Science*, New Haven, 1984, pp. 35–44; Evelleen Richards, 'A question of property rights: Richard Owen's evolutionism reassessed', *British Journal for the History of Science*, (1987), **20**, pp. 129–171, especially pp. 169–171; David Knight, *The Age of Science: The Scientific World-View in the Nineteenth Century*, Oxford, 1986, pp. 100–102, 115.

17 Vol. 225 (1860), pp. 251–275.

18 Vol. 73 (1860), pp. 295–310.

19 *Darwin*, II, p. 94. Italics are Darwin's.

20 Ibid., p. 101. Darwin's former Cambridge mentor, the highly respected botanist, Rev. J.S. Henslow, reported to Darwin; 'I don't think it is at all becoming in one Naturalist to be better against another any more than for one sect to burn the members of another' (5 May 1860, in Nora Barlow, ed., *Darwin and Henslow—The Growth of an Idea—Letters 1831–1860*, Berkeley, 1967, p. 203).

causing them, and as long as they did not waver in their support, he was not too concerned about hostile reactions.[21]

It is, then, with a background of months of mounting confrontation generated by Darwin's book that the British Association met at Oxford on Wednesday, 27 June at 4 p.m. in the Sheldonian Theatre, where a 'large and brilliant assembly [gathered]. The Chancellor, Vice-Chancellor and all the heads of the University were present, as well as the men of science from all parts of Europe'.[22] The Prince Consort, finishing his year as President, turned the proceedings over to the in-coming President, the famous astronomer Lord Wrottesley, who delivered the annual President's Address. The next day a paper was read in Section D (Botany and Zoology, including Physiology) which touched on Darwin's book, and generated a tense discussion, during which Professor Owen strongly asserted that the brain of a gorilla had more differences from the brain of man than from the brain of the very lowest of animal life. This, of course, was an attack on Huxley, who for some time had been suggesting that the brain differences between gorillas and man were not very great. Even though Huxley had earlier refused to make a contribution, feeling 'that a general audience, in which sentiment would unduly interfere with intellect, was not the public before which such a discussion should be carried on',[23] he was stimulated to reply, and 'somewhat facetiously remarked that they [the churchmen] had nothing to fear even should it be shown that apes were their ancestors.'[24] This sharp exchange with Owen was a prelude for what was to occur on Saturday, 30 June in another meeting of the same Section, following the presentation of another paper. This Saturday impromptu exchange in the discussion period is the so-called 'debate' between Wilberforce and Huxley.

Part of the excitement was stimulated by the very building in which the rhetorical event took place. The new museum had just been completed and indeed was only partly furnished, with the British Association being 'the first organization to use the new building before it was to be opened to the University in October'.[25] The museum was the culmination of a decade of effort on the part of those who had felt that science should be more prominently highlighted at Oxford, and indeed, Bishop Wilberforce had been one of the movement's supporters.[26] One observer wrote later: 'The lovely Museum rose before us [during the late 1850s] like an exhalation . . .'[27] The completed museum in 1860 stood as a symbol of 'Oxford's concession to the claims of physical science'.[28] With

21 See for example, *Darwin*, II, pp. 15, 17, 28, 31, 35, 47, 58, 61–62, 84, 93, 96, 100–102, 109–110; Francis Darwin and A.C. Seward, eds, *More Letters of Charles Darwin*, 2 vols, New York, 1903, I, pp. 156–157, 161 (hereafter cited as *More Letters*).

22 *The Athenaeum*, 30 June 1860, p. 886. See also *Jackson's Oxford Journal*, 30 June 1860, p. 4; *The Times*, 28 June 1860, p. 12.

23 *The Athenaeum*, 7 July, p. 26.

24 *The Press*, 7 July, p. 656.

25 Jack Morrell and Arnold Thackray, *Gentlemen of Science: Early Years of the British Association for the Advancement of Science*, Oxford, 1981, p. 395. For an 1860 engraving of the new museum, see ibid., plate 25.

26 Ibid., p. 394.

27 Rev. W. Tuckwell, *Reminiscences of Oxford*, 2nd edn, London, 1907, p. 51.

28 Morrell and Thackray, op. cit. (25), p. 395.

pride a local Oxford newspaper stated: '. . . few places in England . . . possess a building so admirably adapted for such gatherings as the New Museum'.[29]

The audience was a very important part of the rhetorical event. The great attraction was Professor John William Draper from New York,[30] a famous historian of science, who was scheduled to present a paper dealing with Darwin's views. Some people came expecting and hoping 'to hear the oratory of the bold Bishop'[31] in the discussion period. The unusually large number of people who arrived at the Section D meeting necessitated moving it from the originally scheduled lecture room to the long west room which was to become the library.[32] *The Athenaeum* said the audience was 'immense',[33] and other reports have put the number between 400 and 700.[34] The audience was a mixture of scientists, theologians, Oxford dons and students, and women, and thus was an audience which was considerably more broad than a specialized gathering of scientists. The clergy were grouped in the middle of the room; behind them in the northwest corner was a small group of undergraduates.[35] Most of the audience were predisposed against Darwin's views,[36] though Wilberforce was unpopular with many at the University and in some segments of the church.[37] The cheers and laughter which the Bishop's remarks elicited in turn stimulated him to say things he otherwise might not have said. One eyewitness, the Reverend Tuckwell, later wrote: 'The Bishop . . . [said] he did not mean to hurt the Professor's feelings; it was our fault—we had laughed, and that made him pursue the joke. We laughed again, and Huxley was not appeased'.[38] Indeed, one historian has concluded that 'It was the audience, not the participants, who created the event'.[39]

But the participants, surely, were central. After six individuals had given brief reports, Professor Draper read his paper of between an hour and an hour and a half,[40] which 'gave rise to a long and very animated discussion'.[41] Two people in the audience made anti-Darwin comments and Huxley declined the chair's request to make a statement[42] before Bishop Wilberforce was called on. He was no doubt buoyed by his

29 *Jackson's Oxford Journal,* 7 July, p. 4.

30 *The Evening Star,* 2 July, p. 3.

31 *Darwin,* II, 114. An eyewitness later wrote: 'Though a few persons on each side knew of the intention of the Bishop to speak at the meeting, this was not generally known' (Rev. A.S. Farrar to Leonard Huxley, 12 July 1899, *Huxley Papers,* vol. xvi, fol. 13).

32 (Mrs Isabel Sidgwick), 'A grandmother's tales', *Macmillan's Magazine,* (1898), **78, 1,** p. 433. For attribution of authorship. see Walter E. Houghton, ed., *The Wellesley Index to Victorian Periodicals, 1824–1900,* 3 vols, Toronto, 1966, I, p. 656. See also Tuckwell, op. cit. (27), p. 53.

33 14 July, p. 65.

34 *The Evening Star,* 2 July, p. 3; *Darwin,* II, p. 114; *Huxley,* I, p. 195.

35 *Huxley,* I, p. 195.

36 *The Athenaeum,* 7 July, p. 19; Lucas, op. cit. (1), pp. 319, 323.

37 Lucas, op. cit. (1), p. 330; Gilley, op. cit. (1), p. 333.

38 Tuckwell, op. cit (27), p. 55. See also *Jackson Oxford's Journal,* 7 July, p. 2; *Letters of John Richard Green* (ed. Leslie Stephen), London, 1901, p. 44 (hereafter cited as *Green*).

39 Altholz, op. cit. (3), p. 316.

40 *British Association Report,* pp. 115–116; *The Athenaeum,* 14 July, pp. 64–65; *Green,* p. 44; *Huxley Papers,* vol. xvi, fol. 13.

41 *The Evening Star,* 2 July, p. 3.

42 According to Tuckwell, the chairman asked Huxley to comment, but the latter made the 'sarcastic response that he certainly held a brief for Science, but had not yet heard it assailed' (op. cot., 27, p. 53).

well-received eloquent presentation the day before in the Geography Section.[43] Now, as one of the vice-presidents of the British Association and as the local Bishop,[44] he was seated on the platform, and rose to speak for about thirty minutes[45] with 'great power and eloquence'.[46] *The Athenaeum* summarized his remarks in one-third of a column, reporting that he

> stated that the Darwinian theory, when tried by the principles of inductive science, broke down. The facts brought forward did not warrant the theory . . . The line between man and the lower animals was distinct; there was no tendency on the part of the lower animals to become the self-conscious intelligent being, man; or in man to degenerate and lose the high characteristics of mind and intelligence . . . Mr Darwin's conclusions were an hypothesis, raised most unphilosohpically to the dignity of a causal theory.[47]

It is reasonable to assume that Wilberforce's remarks were to a large extent the same as his review of *Origin,* which he had finished on 20 May[48] and which would appear in the July issue of *The Quarterly Review.* Resting, perhaps, too heavily on that assumption, Phelps and Cohen have attempted to outline what the Bishop said,[49] and Lucas has developed a thorough analysis.[50]

The sarcastic question which agitated Huxley into replying was, interestingly, not specified by newspaper accounts, except for the London weekly, *The Press,* which reported: 'The Bishop of Oxford . . . asked the Professor [Huxley] whether he would prefer a monkey for his grandfather or his grandmother',[51] Wilberforce was simply following up on Huxley's remarks at the Thursday meeting of Section D.[52] On 4 July, the last day of the conference, Lyell gave a second-hand account in a letter to a friend, vitrually identical to *The Press*: 'The Bishop of Oxford asked whether Huxley was

43 Wilberforce played a central role in the discussion following a report from David Livingstone in Africa (*Jackson's Oxford Journal,* 14 July, p. 2).

44 When journalists mentioned dignitaries at the conference, Bishop Wilberforce was one of them, so he was a central figure throughout (e.g., *The Times,* 28 June, p. 12; *Jackson's Oxford Journal,* 30 June, p. 4). Others on the platform (on the east side of the room) were Professor J.S. Henslow, the presiding officer, in the centre; to his right was Wilberforce, then Dr Draper. To Henslow's left was Huxley, Sir Benjamin Brodie, Prof. Beale, John Lubbock, Joseph Hooker and a Mr Dingle (*Huxley,* I, pp. 195, 202).

45 Ibid., p.197.

46 *The Evening Star,* 2 July, p. 3.

47 7 July, p. 19. See also *The Press,* 7 July, p. 656; *The Evening Star,* 2 July, p. 3; and *Jackson's Oxford Journal,* 7 July, p. 2. Actually, some supporters of Darwin, such as Lyell (*Lyell,* II, 333) and J.S. Henslow (*Macmillan's Magazine,* III, 1861 February, p. 336), insisted on referring to Darwin's hypothesis, not his theory.

48 (A.E. Ashwell) and Reginald G. Wilberforce, *Life of the Right Reverend Samuel Wilberforce, D.D.,* 3 vols, London, 1881, II, p. 449, (hereafter cited as *Wilberforce*). The Bishop was not as ill-informed as the Darwin camp contended, and their suspicion that Owen had coached Wilberforce was perhaps exaggerated. However, in 1887 Huxley finally felt that proof now did exist for the claim that Owen had indeed primed the Bishop at Oxford (*Huxley Papers,* vol. xli, fols. 133–134).

49 Lynn A. Phelps and Edwin Cohen, 'The Wilberforce–Huxley Debate', *Western Speech,* (1973), **37**, pp. 57–60.

50 Lucas, op. cit. (1), pp. 317–322.

51 7 July, p. 656.

52 Ibid.; *Green,* p. 44.

related by his grandfather's or grandmother's side to an Ape'.[53] A similar version was given by eye-witnesses towards the end of the century of Francis Darwin and Leonard Huxley for their paternal biographies,[54] and by Sidgwick in her reminiscing in *Macmillan's Magazine*.[55] A slightly different version had the query being whether it was Huxley's mother or grandmother,[56] and another version asked whether it was Huxley's grandfather or further back.[57] Reginald Wilberforce, in his 1881 biography of his father, wrote that his father had said 'that whatever certain people might believe, he would not look at the monkeys in the Zoological as connected with his ancestors'.[58] Whatever the precise wording, it was in the eyes of many of the audience, 'an almost incredible false step',[59] and it stirred Huxley to respond.

> Three decades later Huxley described the situation to Francis Darwin: I . . . chanced to sit near old Sir Benjamin Brodie. The Bishop began his speech, and to my astonishment very soon showed that he was so ignorant that he did not know how to manage his own case. My spirits rose proportionately, and when he turned to me with his insolent question, I said to Sir Benjamin, in an undertone, 'The Lord hath delivered him into mine hands'. . . The bishop had justified the severest retort I could devise, and I made up my mind to let him have it. I was careful, however, not to rise to reply, until the meeting called for me—then I let myself go.[60]

An eyewitness who had described Wilberforce as 'argumentative, rhetorical, [and] amusing' wrote that 'Huxley rose, white with anger',[61] The young student, J. R. Green, strongly anti-Wilberforce, wrote to a friend that Huxley was 'young, cool, quiet, sarcastic, scientific in fact and treatment'.[62] *The Athenaeum* devoted almost the same amount of space to Huxley as to Wilberforce, although Huxley probably did not speak as long as the Bishop:

53 *Lyell*, II, p. 335. Lucas, in his effort to rehabilitate Wilberforce, insists that 'it cannot have been what was actually said' (p. 324), and is, for instance, too quick to denigrate Lyell's account merely because it was second-hand and because Lyell had heard different versions. Actually, multiple versions, presumably trustworthy ones (even though likely pro-Darwin), reported to Lyell so soon after the event, and he, a highly trustworthy (though pro-Darwin) individual reporting so soon to his correspondent, could, on the contrary, add up to Lyell's version having a high probability of accuracy. Six months after Oxford, a writer in *Macmillan's Magazine* lamented that opponents of Darwinism would stoop 'to ask a professor if he should object to discover that he had been developed out of an ape' (Fawcett, p. 88).

54 Rev. W.H. Freemantle's account: 'I should like to ask Professor Huxley . . . as to his belief in being descended from an ape. Is it on his grandfather's or his grandmother's side that the ape ancestry comes in?' (*Huxley*, I, p. 200). Rev. A.S. Farrar's account: 'If any one were to be willing to trace his descent through an ape as his *grandfather*, would he be willing to trace his descent similarly on the side of his *grandmother?*' (Farrar's italics) (*Huxley Papers*, vol. xvi, fol. 14). Farrar felt that Wilberforce's words 'did not appear vulgar, nor insolent, nor personal, but flippant' (ibid., fol. 13).

55 '. . . was it through his grandfather or his grandmother that he claimed his descent from a monkey?' (*Macmillan's Magazine*, 1898 October, p. 443).

56 'Then the Bishop spoke the speech that you know, and the question about his [Huxley's] mother being an ape, or his grandmother' (*Huxley*, I, p. 196).

57 A.G. Vernon-Harcourt's account: 'The Bishop had rallied your father as to the descent from a monkey, asking . . . how recent this had been, whether it was his grandfather or further back (ibid., p. 199).

58 *Wilberforce*, II, p. 451. See also Tuckwell, op. cit. (27), p. 53.

59 O.J.R. Howarth, *The British Association for the Advancement of Science: A Retrospect*, 2nd edn, London, 1931, p. 63.

60 *Huxley*, I, p. 202.

61 Tuckwell, op. cit. (27), pp. 54–55.

62 *Green*, p. 44.

> Prof. Huxley defended Mr Darwin's theory from the charge of its being merely an hypothesis. He said, it was an explanation of phenomena in Natural History . . . Darwin's theory was an explanation of facts; and his book was full of new facts, all bearing on his theory. Without asserting that every part of the theory had been confirmed, he maintained that it was the best explanantion of the origin of species which had yet been offered.[63]

In his exordium Huxley responded specifically to the Bishop's *ad hominem*. Different versions exist. The only newspaper account of the sharp retort was in *The Press* which reported that Huxley said 'he would much rather have a monkey for his grandfather than a man who could indulge in jokes on such a subject'.[64] The youthful J. R. Green wrote excitedly on 3 July to a friend that Huxley asserted:

> . . . a man has no reason to be shamed of having an ape for his grandfather. If there were an ancestor whom I should feel shame in recalling, it would rather be a *man* [italics his], a man of restless and versatile intellect, who, not content with an equivocal success in his own sphere of activity, plunges into scientific questions with which he has no real acquaintance, only to obscure them by an aimless rhetoric, and distract the attention of his hearers from the real point at issue by eloquent digressions and skilled appeals to religious prejudice.[65]

The one available version by Huxley himself[66] is his letter to his friend, Dr Dyster, written about two months after Oxford:

> I had listened with great attention to the Lord Bishop's speech but had been unable to discover either a new fact or a new argument in it—except indeed the question raised as to my personal predilections in the matter of ancestry—That it would not have occurred to me to bring forward such a topic as that for discussion myself, but that I was quite ready to meet the Right Rev. prelate even on that ground. If then, said I, the question is put to me would I rather have a miserable ape for a grandfather or a man highly endowed by nature and possessed of great means and influence and yet who employs those faculties for the mere purpose of introducing ridicule into a grave scientific discussion—I unhesitatingly affirm my preference for the ape . . . I assure you of this because all sorts of reports were spread about, e.g., that I had said I would rather be an ape than a bishop, etc.[67]

63 7 July, p. 19. See also *The Evening Star*, 2 July, p. 3. One eyewitness reported that Huxley developed his contention with the following analogy: 'Belated on a roadless common in a dark night, if a lantern were offered to me, should I refuse it because it shed imperfect light? I think not—I think not' (Tuckwell, op. cit. (27), p. 55).

64 7 July, p. 656.

65 *Green*, p. 45. Both Huxley and Farrar claimed that the term 'equivocal' had not been used (*Huxley*, I, p. 199, n.; *Huxley Papers*, vol. xvi, fol. 14). On 4 July Lyell wrote his second-hand account to a friend: 'Huxley replied (I heard several varying versions of this shindy), "that if he had his choice of an ancestor, whether it would be an ape, or one who having received a scholastic education, should use his logic to mislead an untutored public, and should treat not with argument but with ridicule the facts and reasoning adduced in support of a grave and serious philosophical question, he would not hesitate for a moment to prefer the ape"' (*Lyell*, II, p. 335).

66 Huxley had immediately written a long account of the Oxford experience to Darwin (Darwin to Huxley, 5 July 1860, *Huxley Papers*, vol. 5, fol. 123), but it has apparently been lost. Francis Darwin, working on his father's biography in 1886, wrote to Huxley: 'I wish I had some account of the celebrated Oxford meeting. It is a thousand pities that my father destroyed his letters. There seems to have been one from you . . .' (*Huxley Papers*, vol. 13, fols. 44–45).

67 Huxley to Dr Dyster, 9 September 1860, *Huxley Papers*, vol. xv, fols 117–118 (hereafter cited as *Dyster*). Until a portion of this letter was first brought to public view by D.J. Foskett in 1963 in *Nature*, **172**, p. 920, it was assumed that Huxley had left no account of his retort. Portions of the letter can be found in *Scientific American*, CXC (1954), **12**; *The Scientific Monthly*, LXXXIV (1957), pp. 171–172; Sir Gavin de Beer, *Charles Darwin: Evolution by Natural Selection*, London, 1963, pp. 166–167; Garrett Hardin, ed., *Population*,

In the December 1860 *Macmillan's Magazine*, Henry Fawcett wrote: 'The retort was so justly deserved, and so inimitable in its manner, that no one who was present can ever forget the impression it made'.[68] In later years other versions were recorded and collected in Leonard Huxley's biography and in Francis Darwin's biography.[69]

When Huxley concluded, two or three anti-Darwin voices were heard, followed by two Darwin supporters, John Lubbock and Joseph Hooker.[70] Some evidence suggests that Lubbock and Hooker have been inappropriately overlooked, but Lucas, seemingly anxious to downgrade Huxley, states it too strongly when he claims that their remarks were at the time 'held to be far more important than anything Huxley said'.[71] It is certainly unlikely in Lubbock's case. A neighbour and friend of Darwin, and although coming from an important family and making a promising beginning in his scientific work, he was, in 1860, only twenty-six years old and did not possess the stature of others. *The Athenaeum* summarized his comments very briefly, and other newspapers merely listed his name.[72]

But a stronger case can be made for Hooker. *The Athenaeum* devoted a whole column to a summary of his comments, which was three times more than the space devoted to either Wilberforce or Huxley.[73] The 43-year-old Hooker, Assistant Director of the Royal Botanic Gardens at Kew under his father (and son-in-law to Professor Henslow, who was chairing the meeting!), was a highly respected botanist and person. Hooker became greatly agitated and although not an experienced public speaker,

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Evolution, and Birth Control: A Collage of Controversial Readings, San Francisco, 1964, pp. 154–155; Cyril Bibby, *The Essence of T.H. Huxley*, London, 1967, pp. 12–13; Ronald W. Clark, *The Huxleys*, London, 1968, pp. 59–60. The phrasing mentioned by Huxley at the end of this letter to Dyster refused to die, and when Reginald Wilberforce included it in volume 2 (p. 451, line 7) of his biography of his father, Huxley insisted that the author correct it, which was done with the following errata placed in the beginning of volume 3 (1882): '"I would rather be descended from an ape than a bishop" ought to be "If I had to choose between being descended from an ape or from a man who would use his great powers of rhetoric to crush an argument, I should prefer the former".

68 III, p. 88. Fawcett's account was: 'The professor aptly replied to his assailant by remarking, that man's remote descent from an ape was not so degrading to his dignity as the employment of oratorical powers to misguide the multitude by throwing ridicule upon a scientific discussion'.

69 *Huxley*, I, pp. 197–202; *Darwin*, II, pp. 114–116. At the end of the century, Sidgwick reminisced that Huxley said: 'He was not ashamed to have a monkey for his ancestor; but he would be ashamed to be connected with a man who used great gifts to obscure the truth' (p. 434).

70 Hooker, Lubbock and Huxley were close friends, and from 1864 until their deaths were part of the nine-member 'X Club', which was a group of like-minded scientists who dined monthly in London. See J. Vernon Jensen, 'The X Club: fraternity of Victorian scientists', *The British Journal for the History of Science*, (1970) **3**, pp. 63–72; and 'Interrelationships within the Victorian "X Club"', *Dalhousie Review*, (1971–1972), **51**, pp. 539–552.

71 Lucas, op. cit. (1), p. 323.

72 *The Athenaeum*, 7 July, p. 19; *The Evening Star*, 2 July, p. 3; *Jackson's Oxford Journal*, 7 July, p. 2; *John Bull*, 7 July, p. 422.

73 14 July, p. 65. Length of space, of course, cannot necessarily be equated with the length or importance of the speeches. For example, in one instance *The Athenaeum* reported merely that 'a long discussion ensued' in which six listed individuals took part (ibid,), and in another instance, that 'a discussion ensued' and the seven who took part were merely listed (ibid., p. 68). The usual factors in reporting no doubt played a role: which sectional meetings the reporters decided to attend, the degree of interest the reporters had in the subject, their degree of understanding of the subject, their attitude toward the subject and speakers, the degree of comfort of the reporter and the eventual editorial condensing and cutting.

notified the chair of his desire to speak.[74] Responding to calls from the audience[75] the chairman called on Hooker 'to state his views of the botanical aspect of the question'.[76] Hooker's letter to Darwin during the Oxford conference suggests that his [Hooker's] comments were more easily heard and more favourably taken than Huxley's.[77] At the end of the century, Farrar wrote that 'The speech which really left its mark *scientifically* on the meeting, was the short one of *Hooker*',[78] but that Huxley 'had scored a victory over Bishop Wilberforce in the question of good *manners*'.[79] But that distinction was not perceived by the three newspaper reporters who clearly highlighted Huxley and not Hooker,[80] and many eyewitness accounts do not mention Hooker.[81] Perhaps the way Huxley put it in his letter to Dyster two months after the conference is helpful: 'Lubbock and Hooker spoke after me with great force and *among us* we shut up the bishop and his party'.[82] Clearly Huxley was the central antagonist, as an important political figure wrote in his diary on 4 July: 'The British Association is meeting this year at Oxford, and there has been a great scene between the Bishop of Oxford and Huxley'.[83] History has appropriately kept Huxley at centre stage.

Finally, the lengthy and exciting session drew to a close; as one eyewitnesss put it, 'the sacred dinner-hour drew near'.[84] The chairman (Henslow) made some brief remarks, and then 'dismissed us with an impartial benediction'.[85]

It should be observed that what may be considered a notable lack of press coverage of the convention in general or the Wilberforce–Huxley exchange in particular[86] may be due in part to the apparently bad relationship between the British Association and the press. For instance, the reporter for *Jackson's Oxford Journal* blamed the British

74 Hooker to Darwin, 2 July 1860, in Leonard Huxley, *Life and Letters of Sir Joseph Dalton Hooker*, 2 vols, London, 1918, I, p. 526 (hereafter cited as *Hooker*). Hooker is described by a recent biographer as 'nervous and highly strung and . . . sometimes hasty' (William Bertram Turrill, *J.D. Hooker, Botanist, Explorer, and Administrator*, London, 1963, p. 201) and by another writer as 'very impulsive and somewhat peppery in temper' (Gavin de Beer, ed. and intro., *Charles Darwin and Thomas Henry Huxley, Autobiographies*, London, 1974, p. 62).

75 *Huxley*, I, p. 200.

76 *The Athenaeum*, 14 July, p. 65.

77 *Hooker*, I, p. 526; Darwin to Huxley, 3 July, *Huxley Papers*, vol. v, fol. 121. Lyell's 4 July letter to Bunbury also stresses Hooker's effectiveness (*Lyell*, II, p. 335).

78 Farrar to Leonard Huxley, 7 July, 1899, *Huxley Papers*, vol. xvi, fol. 16 (italics his). See also ibid., fol. 19. A recent church historian has stated it too strongly when he writes: 'It is clear that the speech of J.D. Hooker, and not the speech of Huxley, made the big impression on the audience in countering the bishop's arguments . . . [Huxley] attacked rather the tone and rhetoric than the arguments, and contemporaries were agreed that the man who answered the arguments was Hooker' (Owen Chadwick, *The Victorian Church*, London, 1966, 2 vols., II, pp. 10–11). One eyewitness, W. Tuckwell, later wrote that 'Hooker led the devotees' (op. cit. (27), p. 56 of Darwin, but that means *after* Huxley had spoken.

79 *Huxley Papers*, vol. xvi, fol. 19. See also fol. 15.

80 *The Evening Star*, 2 July, p. 3; *Jackson's Oxford Journal*, 7 July, p. 2; *John Bull*, 7 July, p. 422.

81 See the accounts, for example, by Green, Sidgwick, and Vernon-Harcourt.

82 *Huxley Papers*, vol. xv, fol. 117. Italics mine.

83 Sir Mountstuart E. Grant Duff, *Notes from a Diary, 1851–1872*, 2 vols, London, 1897, I, p. 139.

84 Tuckwell, op. cit. (27), p. 56.

85 Ibid.; *Hooker*, I, p. 527.

86 Alvar Ellegard, 'Public opinion and the press: reactions to Darwinism,' *Journal of the History of Ideas*, (1958), **19**, pp. 379–387.

Association for shabby treatment: '[The President of Section E (Geography and Ethnology) complained] . . . that no reporters had attended this section, and that in consequence much interesting matter and many eloquent speeches had been lost to the world. It is, however, but common justice to the press to state that all connected with it are desirous of forwarding the views of the Association, but they are not met in a corresponding spirit, or treated with the courtesy shown them by all other public bodies, inasmuch as no provision is made for them in the way of accommodation, and they are compelled to get where they can and take notes under the most disadvantageous circumstances; and we are informed that it is owing to this fact that the London press has scarcely had a representative on the present occasion beyond their local correspondents'.[87]

What was the effect of the Wilberforce–Huxley exchange on the immediate audience? *The Evening Star* gave a rather balanced reaction, writing that the Bishop's speech 'produced a marked effect upon the audience' and that Huxley's reply 'was loudly applauded'.[88] Since most of the versions that are available are from pro-Huxley observers, we have more of those, and they have built the story that Huxley and science experienced a significant victory. The young J. R. Green, not yet a mature historian, reported that during the Bishop's speech his supporters 'cheered lustily, a sort of "Pitch it to him" cheer', but then of course Huxley proceeded to give 'his lordship . . . a smashing'.[89] Lyell's 4 July letter said that Wilberforce started with the majority clearly on his side, that he 'had been much applauded' but by the end of the session the audience 'were quite turned the other way'.[90] In her 1900 reminiscence, Sidgwick says '. . . the effect was tremendous. One lady fainted and had to be carried out;[91] I, for one, jumped out of my seat'.[92] As Farrar wrote at the end of the century, '. . . the impression distinctly was, that the Bishop's party, as they left the room, felt abashed, and recognized that the Bishop had forgotten to behave like a gentleman'.[93] Huxley's letter to Dyster in September 1860 buoyantly asserted: 'I believe I was the most popular man in Oxford for full four and twenty hours afterwards'.[94] At the end of the century Sir Michael Foster told Leonard Huxley

> that when Huxley rose he was received coldly, just a cheer of encouragement from his friends, the audience as a whole not joining in it. But as he made his points the applause grew and widened, until, when he sat down the cheering was not very much less than that given to the Bishop. To that extent he carried an unwilling audience with him by the force of his speech.[95]

87 30 June, p. 5.

88 2 July, p. 3.

89 *Green*, p. 44.

90 *Lyell*, II, p. 335.

91 Since the tightly packed room 'was crowded to suffocation long before the protagonists appeared' (*Huxley*, I, p. 195), the 'debate' perhaps should not be given full credit for that effect!

92 Sidgwick, op. cit. (32), pp. 425, 434. She was about 25 years old at the time.

93 *Huxley Papers*, vol. xvi, fol. 15. Somehow, published versions of this portion of Farrar's letter have inaccurately inserted the adjective 'perfect' before 'gentleman'.

94 *Huxley Papers*, vol. xv, fol. 118.

95 *Huxley*, I, pp. 203–204. It seems that Lucas (op. cit. 1, p. 323) is straining considerably when he cites Foster's account as a piece of evidence for the claim that at the end of the debate the majority were with Wilberforce.

Freemantle, a clergyman like Farrar and Green, said, three decades after Oxford, that at the close of the meeting, the impression was left that 'those most capable of estimating the arguments of Darwin in detail saw their way to accept his conclusions'.[96]

Not surprisingly, Wilberforce and his followers saw it differently. In his brief diary entry for 30 June, the Bishop included only the factual '. . . spoke at some length in controversy with Huxley',[97] but on 3 July Wilberforce included his judgment in a letter to his friend Sir Charles Anderson: '. . . had quite a long fight with Huxley. I think I thoroughly beat him'.[98] This letter in the Bodleian Library, recently made public,[99] is a highly significant 'missing link', for it helps to explain that Huxley need not have been surprised, as he expressed it late in life to Darwin's son, that the Bishop 'bore no malice, but was always courtesy itself when we occasionally met in after years'.[100] Huxley apparently ascribed this to gentlemanly qualities, but if a person has 'won', it takes little effort to treat the other party with courtesy. Reginald Wilberforce wrote in the 1881 biography that his father's 'eloquent' speech 'made a great impression'.[101] The London weekly, *John Bull*, after the Oxford conference wrote: 'The impression left *on the minds of those most competent to judge* was that this celebrated theory had been built on very slight foundations, and that a series of plausible hypotheses had been skilfully manipulated into solid facts, while a vast array of real facts on the opposite side had been completely ignored'.[102] Even the pro-Huxley Mrs Sidgwick wrote, in 1900, that at the conclusion of the meeting Huxley supporters were still in the minority.[103] These divergent reactions are perhaps harmonized rather well by *The Athenaeum's* summation, which stated that the Bishop and Huxley, and a few others, 'have each found foemen worthy of their steel, and made their charges and countercharges very much to their own satisfaction and the delight of their respective friends'.[104]

Receiving immediate, strongly positive reports from Hooker and Huxley, Darwin, who could not attend because of ill health,[105] responded with admiration and gratefulness. He wrote to Hooker on 2 July:

> I should have liked to have heard you triumphing over the Bishop. I am astonished at your success and audacity. It is something unintelligible to me how any one can argue in public like orators do. I had no idea you had this power . . . I am glad I was not in Oxford, for I should have been overwhelmed, with my [health] in its present state.[106]

96 *Huxley*, I, 201.

97 Oxford, Bodleian Library, Samuel Wilberforce Diary, Dep. e. 327. I am indebted to Mary Clapinson, Keeper of Western Manuscripts, Bodleian Library, for her assistance in securing a photocopy of a portion of the Wilberforce Diary and for securing permission for me to use it.

98 Altholz, op. cit. (3), p. 315.

99 Supra, note 3.

100 *Huxley*, I, p. 202.

101 *Wilberforce*, II, pp. 450–451.

102 7 July, p. 422. The italics are mine, to call attention to the similarity in wording to the Freemantle account (supra, p. 1b), but from the opposite point of view.

103 *Huxley*, I, p. 203.

104 7 July, p. 19.

105 *Darwin*, II, pp. 101, 112, 117; *Huxley Papers*, vol. v, fol. 122.

106 *Darwin*, II, pp. 116–117.

Darwin wrote to Huxley on 3 July: 'I honour your pluck; I would as soon have died as tried to answer the Bishop in such an assembly.'.[107]

From what has been sketched so far, a number of observations can be made on the Wilberforce–Huxley 'debate'. First, it was an impromptu exchange, not a formal clash of prepared speeches. The latter is usually implied when the event is alluded to in twentieth century American rhetoric books or other historical works. That misleading picture is perpetuated by such erroneous phrasing as 'Bishop Wilberforce read a paper aimed straight at Huxley.',[108] or 'The attack on Darwin's book was to be led by the Bishop of Oxford . . . and Huxley was to head the defence.',[109] or by Reginald Wilberforce, twenty-seven years later, placing the exchange in the Sheldonian Theatre.[110] Both speakers merely entered into the discussion following the presentation of a prepared paper by someone else, and neither person spoke until called upon by members of the audience and the presiding officer. In his letter to Anderson on 3 July, Wilberforce wrote that the chairman 'called on me by name to address the Section on Darwin's Theory. So I could not escape'.[111] Farrar's account insisted that 'the events of the meeting unfolded' with 'naturalism' and not in a planned and formal manner.[112] While both speakers gave 'unprepared' spontaneous comments, both were 'prepared' in the larger, general sense.

Not only were Huxley's remarks spontaneous, but he very nearly skipped the meeting. His scheduled paper ('On the Development of Pyrosoma') had been given on Friday,[113] so he was planning to relax with his family a short distance from Oxford. Thirty years later he explained the situation to Francis Darwin:

> The odd part of the business is, that I should not have been present except for Robert Chambers.[114] I had heard of the Bishop's intention to utilise the occasion. I knew he had the reputation of being a first-class controversialist, and I was quite aware that if he played his cards properly, we should have little chance, with such an audience, of making an efficient defence. Moreover, I was very tired, and wanted to join my wife at her brother-in-law's country house near Reading, on the Saturday.[115] On the Friday I met Chambers in the street, and in reply to some remark of his, about his going to the meeting, I said that I did not mean to attend it—did not see the good of giving up peace and quietness to be episcopally pounded. Chambers broke out into vehement remonstrances, and talked about my deserting them. So I said, 'Oh! if you are going to take it that way, I'll come and have my share of what is going on'.[116]

Second, it is also quite clear that the rhetorical event was, and has continued to be, cast in a dramatic format of heroes and villains, of a military contest whereby one side

107 Ibid., p. 117; *Huxley Papers*, vol. v, fol. 121. Darwin went on to chide Huxley: 'But how durst you attack a live Bishop in that fashion? I am quite ashamed of you!' (ibid., fol. 123).

108 Sir Gavin de Beer, *Charles Darwin: Evolution by Natural Selection*, p. 166.

109 Tuckwell, op. cit. (27), p. 53.

110 *The Times*, 29 November 1887. (*Huxley Papers*, vol. xli, fol. 133).

111 Altholz, op. cit. (3), p. 315. See also *Huxley*, I, p. 196; Tuckwell, op. cit. (27), p. 53.

112 *Huxley Papers*, vol. xvi, fol. 13.

113 *British Association Report*, p. 136; *The Athenaeum*, 7 July, p. 28.

114 An early evolutionist, Chambers had published anonymously in 1844 a highly controversial and not so highly respected treatise on evolution, *Vestiges of the Natural History of Creation*.

115 Indeed, in his diary for Saturday, 30 June, Huxley has recorded departure times for the train to Reading (*Huxley Papers*, vol. lxx, fol. 3).

116 *Huxley*, I, p. 202.

would win and the other lose. For example, the military metaphor was central in letters of Darwin at this time. Hearing of the strong attacks on him by conservative scientists at the Cambridge Philosophical Society in early May, 1860, Darwin wrote to Hooker:

> It makes me resolve to buckle on my armour. I see plainly that it will be a long uphill fight... But if we all stick to it, we shall surely gain the day. And I now see that the battle is worth fighting.[117]

Hearing of the confrontation at Oxford, Darwin wrote of the 'awful battle which has raged about "species" at Oxford',[118] During this time he was happy to learn that in the United States 'the battle rages furiously',[119] and that Asa Gray was 'fighting like a Trojan' and 'fighting admirably'.[120] Darwin wrote to Lyell: 'I am determined to fight to the last... I had lots of pleasant letters about the Brit. Assoc., and our side seems to have got on very well... [Our key supporters] are determined to stick to the battle and not give in'.[121] Others likewise employed confrontational metaphors. We have already noted Wilberforce's 3 July letter to Anderson in which he reported: '... had quite a long fight with Huxley. I think I thoroughly beat him,[122] but J. R. Green was writing at the same time of 'the episcopal defeat'.[123] Another eyewitness, Mrs Sidgwick, years later reminisced: 'I never saw such a display of fierce party spirit, the looks of bitter hatred which the audience bestowed—... on us who were on your father's side—as we passed through the crowd we felt that we were... considered outcasts and detestable'.[124] Huxley of course pronounced victory for his side, and he wrote to Dyster: 'I think Samuel will think twice before he tries a fall with men of science again'.[125] Huxley was happy to be 'smiting the Amalekites'.[126] The reporter for *The Press* wrote: '... the men of science were the aggressors, or, if you will, the reformers, while the divines defend the ancient bulwark'.[127]

But the battle was not only between the Darwinists and the divines, but between the Darwinists, generally the younger scientists, and the older, more conservative scientists, with notable exceptions such as Lyell and Henslow. One eyewitness at Oxford remarked that 'the younger men were on the side of Darwin, the older men against him'.[128] By the end of 1860 Darwin wrote to Huxley: 'I can pretty plainly see that, if my view is ever to be generally adopted, it will by young men growing up and replacing the old workers'.[129] In the December 1860 *Macmillan's Magazine* Henry Fawcett began his article by asserting that Darwin's book 'has for a time divided the scientific world into two great contending sections. A Darwinite and an anti-Darwinite are now the badges of opposed scientific parties'.[130] At the British Association meeting in 1894 the Marquis of Salisbury looked

117 *Darwin*, II, p. 101.
118 Darwin to Huxley, 3 July 1860, *Huxley Papers*, vol. v, fol. 121. See also fol. 122.
119 *Darwin*, II, p. 101.
120 Darwin to Huxley, 5 July 20 July, 1860, *Huxley Papers*, vol. v, fols 124, 126.
121 *Darwin*, II, pp. 109, 120, 124.
122 Altholz, op. cit. (3), p. 315.
123 *Green*, p. 44.
124 *Huxley*, I, p. 203.
125 *Huxley Papers*, vol. xv, fols 117–118.
126 Huxley to Hooker, 6 August 1860, *Huxley Papers*, vol. ii, fol. 73.
127 7J uly, p. 656.
128 Tuckwell, op. cit. (27), p. 56.
129 *Darwin*, II, p. 147.
130 Fawcett, p. 81.

back at the 1860 meeting and said that 'in many cases religious apprehension only masked the resentment of the older learning at the appearance and claims of its younger rival'.[131]

Not only were these younger scientists a minority in 1860, but they felt they were a *persecuted* minority. Certainly this was the case with Huxley. Returning in 1850 from his four-year expedition on the *Rattlesnake,* he suffered fruitless and bitter years up to 1854 trying to secure a position in the world of science, a frustration which was greatly aggravated for it delayed the security needed before he could ask his fiancée, who was in Australia, to come to England to be married.[132] He built up a sense of anger that people like him, who were trying to secure a place strictly on merit with no family name or wealth or religious credentials, were excluded from university positions. Only in 1854 did he obtain an appointment as Lecturer in Natural History at the Government School of Mines in London, and in 1855 as Naturalist to the Geological Survey. Thus, at Oxford he was a young 35-year-old still struggling to secure justice from the scientific establishment. In contrast, the 55-year-old Wilberforce, Bishop of Oxford for fifteen years, a high official in an institution with nineteen centuries of history which dominated university life, was at the height of his prestigious career. Science was a babe trying to creep into university curricula. The British Association was only thirty years old. When the Bishop inserted his sarcasm at Oxford, with the excess confidence of a status quo power figure toying with a newcomer, he did not fully appreciate how much the sensitive 'persecuted' minority faction[133] would resent it, just as any 'disadvantaged' individual or group resents so-called humour at their expense.

Biographical, rhetorical and historical works have entrenched the battle metaphor. In his biography of his father, Francis Darwin speaks of the 'pitched battles' at Oxford and that on 30 June 'the battle arose with redoubled fury'.[134] Leonard Huxley's biography at the end of the century contains many testimonies to the 'battle',[135] and twentieth-century biographies of Huxley continue the message that the outcome of the battle was victory for Huxley over the villainous Wilberforce.[136] It is understandable that

131 As quoted in Howarth, op. cit. (59), pp. 41–42.

132 See J. Vernon Jensen, '"The most intimate and trusted friend I have": a note on Ellen Busk, young T.H. Huxley's confidante', *Historical Studies* (Melbourne), **17**, (1977), pp. 315–322. To cite two examples, Huxley was not selected in 1853 for a position at King's College, London (J.W.C. Law to Huxley, 13 May 1853, *Huxley Papers,* vol. xxi, fol. 175), and his religious views were a negative factor in applying for a chair at Oxford in 1856 (Huxley to [Frederick James] Furnival, 24 November 1856, San Marino, California, Huntington Library, Huntington MSS: FU 429).

133 Lucas (op. cit.,1, p. 329) notes that 'The Darwinians, who were a small minority in 1860, became the dominant majority over the next twenty years, but never lost the sense of being persecuted'.

134 *Darwin,* II, pp. 113–114.

135 *Huxley,* I, pp. 196–204.

136 Edward Clodd, *Thomas Henry Huxley,* New York, pp. 20–23; J.R. Ainsworth Davis, *Thomas H. Huxley,* London, pp. 52–54; Clarence Ayres, *Huxley,* New York, 1932, pp. 50–52; William Irvine, *Apes, Angels, and Victorians: Darwin, Huxley, and Evolution,* Cleveland, pp. 3–8; Cyril Bibby, *The Essence of T.H. Huxley,* London, 1967, p. 157; Ronald W. Clark, *The Huxleys,* London, 1968, pp. 54–62; Cyril Bibby, *Scientist Extraordinary: The Life and Scientific Work of Thomas Henry Huxley,* Oxford, 1972, pp. 40–41; de Beer, *Darwin and Huxley: Autobiographies,* p. xiii. More judicious biographical accounts are Albert Ashforth, *Thomas Henry Huxley,* New York, 1969, pp. 34–38; James G. Paradis, *T.H. Huxley: Man's Place in Nature,* Lincoln, 1978, pp. 37, 43.

Darwin's grand-daughter would continue in that vein: '. . . Samuel Wilberforce's superficial ridicule and appeals to prejudice made him an easy prey to Huxley's eloquent and famous reply'.[137] A recent rhetorical study states that Huxley's counter attack 'proved forensically fatal to Wilberforce'.[138] One historian wrote that by the twentieth century 'Darwin through his supporters, was left master of the field',[139] and even a respected church historian recently wrote that Huxley 'annihilated' Wilberforce.[140] A recent analysis has generalized that historians 'popularized the warfare between Darwinism and dogma by drawing on the military metaphor popular in contemporary culture'.[141] The current *Oxford University Museum* pamphlet available for the general public perpetuates the hero and villain image: '. . . in 1860 the Museum was the scene of the memorable debate on evolution between Darwin's champion Thomas Huxley and the reactionary Bishop Wilberforce'.[142]

The modern medium of television has also continued the drama. The BBC programmes on Darwin in December 1978 portrayed a young, handsome, heroic Huxley, and at the end of the Oxford exchange, Wilberforce sulkily made his way through the crowd at the exit, much like a nineteenth-century American melodrama, where the cruel and unsavoury landlord heads for the door, twisting his handlebar moustache, and muttering, 'Curses, foiled again'.[143]

Third, in all of the seriousness connected with this rhetorical clash, analysts have overlooked the dimension of playfulness involved. One can appreciate that Wilberforce, a polished and witty speaker, would want to lighten the atmosphere after the passage of about two hours, including an hour or more of a rather boring paper by Dr Draper in an unpleasant nasal American accent,[144] in a crowded and hot room. One eyewitness account said that the Bishop had prefaced his question with 'I should like to ask Professor Huxley, who is sitting by me, and is about to tear me to pieces when I have sat down . . .',[145] and another eyewitness said that the Bishop's question was meant 'as a sort of joke'.[146] *The Athenaeum* reporter mentioned the 'play' that took place in the Sectional meetings.[147] Indeed, it has been said that the British Association through the years has been 'a source of rational entertainment'.[148] For months prior to Oxford, evolutionists

137 Barlow, op. cit. (20), p. 209, n. 1.

138 Phelps and Cohen, op. cit. (49), p. 60. The authors also show their pro-Huxley bias in the way in which they refer to the sons who wrote their fathers' biographies: Reginald Wilberforce is 'the reverend's son and therefore not an altogether objective source', (ibid.) but Leonard Huxley is simply 'Huxley's son and biographer' (p. 61).

139 Howarth, op. cit. (59), p. 65.

140 David L. Edwards, *Leaders of the Church of England, 1828–1944*, London, 1971, p. 103.

141 Gilley and Loades, op. cit. (1), p. 289. James R. Moore in his *The Post-Darwinian Controversies*, provides an excellent analysis of the deleterious role of the military metaphor, *passim*.

142 Page 1. The plaque outside an entrance to what was the library states more objectively: 'A meeting of the British Association held 30 June 1860 within this door was the scene of the memorable debate on evolution between Samuel Wilberforce, Bishop of Oxford, and Thomas Henry Huxley'.

143 This impression of mine when I viewed the programme is the same as that expressed by Lucas, op. cit. (1), p. 313, Gilley, op. cit. (1), p. 325 and Gilley and Loades, op. cit. (1), p. 285.

144 *Green*, p. 44.

145 *Huxley*, I, p. 200.

146 Ibid., p. 199.

147 7 July, p.18.

148 Roy MacLeod, 'Introduction, on the advancement of science', in *The Parliament of Science: The British Association for the Advancement of Science, 1831–1981* (ed. Roy MacLeod and Peter Collins), Northwood, 1981, p. 22.

had experienced taunts linking their heritage to tadpoles,[149] mushrooms or apes, so it was merely a continuation of an existing joke.[150] In the tradition of British debate, hard-hitting but with a strong undercurrent of playfulness, Wilberforce's question may not appear to be so outlandish or cruel—though its appropriateness still could be questioned. Huxley, in turn, was not displeased with the 'inextinguishable laughter'[151] his retort created, and two months after Oxford he could look back on it and say, 'It was great fun'.[152]

Fourth, what were the long-range effects of the Oxford confrontation on (1) the participants, (2) the British Association, and (3) the general relationship between religion and science?

The effect on Huxley was significant. He was buoyed by what he considered to be a distinct victory,[153] that he had been able to stand up to the talented, prestigious Bishop, twenty years his senior,[154] who would now think more carefully before ridiculing science. Huxley saw clearly the importance of public speaking and planned to cultivate it in the future,[155] which he indeed did right up until his death in 1895. The debate first brought him before the public eye[156] and gave him a 'respectful hearing which might otherwise have been denied'.[157] As has recently been expressed, 'Huxley ceased to be simply a technical scientist and began his evolution into the great Victorian sage, as a popular educationist, essayist, and public speaker'.[158] The effect on Wilberforce is less clear, for the event and its impact have not received much attention from his side, and it was not such a central experience as it was with Huxley. As has been noted, the Bishop felt he had won, and he simply went about his multi-faceted work. He had other subjects on his mind.[159] His son's biography mentions the event only very briefly and favourably,[160] as does a modern biography.[161]

149 *Lyell*, II, p. 329.

150 However, Huxley in his April *Westminster Review* article had defended Darwin against being called an ape, so Huxley no doubt took this Oxford item as a repeated taunt and hence no longer funny.

151 Huxley to Dyster, 9 September 1860, *Huxley Papers*, vol. xv, fol. 117.

152 Ibid., fol. 116.

153 Letters of praise, such as the following one from a friend in Edinburgh shortly after Oxford, no doubt kept Huxley's spirit high. 'I hear you pitched into the Bishop of Oxford in grand style. I should have rejoiced to have been [there]' (George J. Allman to Huxley, 9 July, 1860, *Huxley Papers*, vol. x, fol. 79).

154 It could have been a father–son relationship not only in age but even in looks, and indeed, one stranger that week had thought Huxley was the Bishop's son (*Huxley*, I, p. 198, n.). For photographs of Huxley in 1857 and of Wilberforce, see de Beer, *Darwin, Huxley, Autobiographies*, pp. 86, 102. For a photograph of Huxley taken at the British Association meeting in 1860, see Tuckwell, op. cit. (27), p. 55.

155 Actually, he was cognizant of its importance ever since his maiden public lecture in 1852 at the Royal Institution (J. Vernon Jensen, 'Thomas Henry Huxley's "baptism into oratory",' *Notes and Records of the Royal Society of London*, (1976), **30**, pp. 181–207).

156 *Huxley*, I, p. 193.

157 Altholz, op. cit. (3), p. 313.

158 Gilley and Loades, op. cit. (1), p. 294.

159 For example, on Wednesday, 4 July, the Bishop was in the chair at the annual meeting of Queen's College, London (Bodleian, Samuel Wilberforce Diary, Dep. e. 327; *John Bull*, 7 July 1860, p. 422), and on Friday the 6th, he was in the House of Lords urging that the Bible should be introduced into the Government Schools in India (ibid., p. 432; *Jackson's Oxford Journal*, 14 July 1860, p. 3).

160 *Wilberforce*, II, 450–451.

161 Standish Meacham, *Lord Bishop: The Life of Samuel Wilberforce, 1850–1873*, Cambridge, Mass., 1970, pp. 215–217.

The relationship between Huxley and Wilberforce remained civil, but perhaps mainly because both men perceived they had won the debate. Six months after Oxford, Huxley pursued the subject in a letter to Wilberforce:

> Professor Huxley presents his compliments to the Lord Bishop of Oxford. Believing that his lordship has as great an interest in the ascertainment of the truth as himself, Prof. Huxley ventures to draw the attention of the Bishop to a paper [by Huxley] in the accompanying number of the 'Natural History Review'[162] 'On the zoological relation of Man with the lower animals'. The Bishop of Oxford will find therein full justification for the diametrical contradiction with which he heard Professor Huxley meet certain anatomical statements [by Owen] put forth at the first meeting of Section D, during the late session of the British Association at Oxford.[163]

Huxley and Wilberforce were together in a small group with John Bright after the Royal Academy Banquet of 1868,[164] and in 1971 Wilberforce thanked Huxley for calling his attention to an article recently published.[165] In 1887, however, Huxley and the Bishop's son had a very sharp exchange of letters in *The Times*,[166] which revealed that the tension was still very much alive.

The Oxford confrontation affected the British Association in a number of ways. During the 1860 meeting the reporter for *The Evening Star* concluded that 'so far as we could judge, the new Darwinian theory, whatever may be its real merits in a scientific point of view, has no small number of supporters amongst the members of the Association'.[167] A decade later that number had grown dramatically, as Tuckwell reported:

> Ten years later I encountered him [Huxley] . . . at the Exeter meeting of the Association. Again there was a bitter assault on Darwinism, this time by a Scottish doctor of divinity; with smiling serenity Huxley smote him hip and thigh, the audience, hostile or cold at Oxford, here ecstatically acquiescent. The decade had worked its changes.[168]

The Oxford confrontation 'signalled a growing division between the older, often clerical Gentlemen of Science, who believed in a voluntarism nourished by their financial independence, and those newer career-dependent scientists such as Huxley, who saw entrenched ecclesiastical power as a barrier to their own professional ambitions'.[169] Originally created by and for 'amateurs', the Association now moved toward being a 'closed shop'.[170] Furthermore, the clash at Oxford 'revealed the resentment felt by the

162 This was the first issue of a publication which Huxley helped to found.

163 Oxford, Bodleian Library, 3 January, 1861, MS Wilberforce, C13, fols 1–2. This also has been published in Clark, op. cit. (67), pp. 61–62 (but misdated as June), and in Bibby, op. cit. (136), *Scientist Extraordinary*, p. 46.

164 George Macaulay Trevelyan, *The Life of John Bright*, Boston, 1913, p. 38.

165 Wilberforce to Huxley, 30 January, *Huxley Papers*, vol. xxix, fol. 25.

166 29 November and 1 December 1887, in *Huxley Papers*, vol. xli, fols 133–134. They were still debating who won in 1860. Reginald Wilberforce wrote: 'Did the lash of Bishop Wilberforce's eloquence sting so sharply that, though 27 years have passed, the recollection of the castigation then received is as fresh as ever?' Huxley quickly responded: 'Those who were present at the famous meeting in Oxford . . . will doubtless agree with him [R. Wilberforce] that an effectual castigation was received by somebody. But I have too much respect for filial piety, however indiscreet its manifestations, to trouble you with evidence as to who was the agent and who the patient in that operation'.

167 2 July, p. 3.

168 Tuckwell, op. cit. (27), p. 57.

169 Morrell and Thackray, op. cit. (25), p. 395.

170 Lucas, op. cit. (1), p. 330.

practitioners of the older reflective sciences against the newer empirical ones'.[171] It showed 'party spirit in action, with science manifestly unable to provide that neutral ground'[172] so hoped for by many of the leaders of the Association.

The general relationship between religion and science was significantly affected by the Oxford clash. It

> transformed . . . the whole nature of the conflict over Darwin's theory. Before, it had been . . . essentially the old battle within science between idealism and empiricism . . . The Bishop of Oxford . . . made the conflict appear in the eyes of the world as one between religion and science.[173]

Gilley and Loades have appropriately noted that 'Darwinism intruded upon a complex debate within Christendom itself between liberal and conservative theologies'.[174] It put a great strain on natural theology and on those attempting to harmonize religion and science, whereby scientific study was viewed as discovering more about God's creation and drawing closer to God as a result. The President of the Association in 1860, Lord Wrottesley, had, for instance, concluded his opening address with these words: 'Let us ever apply ourselves seriously to the task [of scientific inquiry] feeling assured that the more we thus exercise, and by exercising improve, our intellectual faculties, the more worthy shall we be, the better shall we be fitted, to come nearer to our God'.[175] The Oxford clash generated great interest in Darwinism,[176] and greatly emboldened the Darwinists. Shortly after the conference, Darwin wrote to Huxley:

> . . . it seems that Oxford did the subject great good. It is of enormous importance the showing the world that a few first-rate men are not afraid of expressing their opinion.[177]

In his biography, Leonard Huxley concluded: 'The importance of the Oxford meeting lay in the open resistance that was made to authority, at a moment when even a drawn battle was hardly less effectual than acknowledged victory'.[178]

171 Morrell and Thackray, op. cit. (25), p. 395.
172 Ibid.
173 A. Hunter Dupree, *Asa Gray*, Cambridge, Mass., 1959, p. 294.
174 Gilley and Loades, op. cit. (1), p. 289.
175 *British Association Report*, p. lxxv. See also *The Athenaeum*, 30 June, p. 891.
176 Alvar Ellegard, *Darwin and the General Reader: The Reception of Darwin's Theory of Evolution in the British Periodical Press, 1859–1872*, Goteborg, 1958, pp. 63–64.
177 *More Letters*, I, pp. 156–157.
178 *Huxley*, I, p. 204, See also Howarth, op. cit. (59), p. 65.