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Preaching at the British Association for the Advancement of Science: sermons, secularization and the rhetoric of conflict in the 1870s

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Abstract. Much attention has been given to the science–religion controversies attached to the British Association for the Advancement of Science, from the infamous 1860 Huxley–Wilberforce debate at Oxford to John Tyndall's 1874 'Belfast Address'. Despite this, almost no attention has been given to the vast homiletic literature preached during the British Association meetings throughout the nineteenth century. During an association meeting the surrounding churches and halls were packed with men of science, as local and visiting preachers sermonized on the relationship between science and religion. These sermons are revealing, particularly in the 1870s when the 'conflict thesis' gained momentum. In this context, this paper analyses the rhetoric of conflict in the sermons preached during the meetings of the association, exploring how science–religion conflict was framed and understood through time. Moreover, it is argued that attention to the geography of the Sunday activities of the British Association provides insight into the complex dynamic of nineteenth-century secularization.

At the inaugural meeting of the British Association for the Advancement of Science (BA) at York in 1831, the president, the Reverend W.V. Harcourt, proclaimed that the discussion of 'religious and political topics' was forbidden; nothing, it was suggested, would be 'more destructive' to the fledgling association than their introduction.[1] However, prohibiting the discussion of religious topics from the association had no effect beyond the confines of official functions. And, from the earliest meetings of the British Association, it became customary for local and visiting preachers and men of science to sermonize on science, religion and the association in the churches and halls of the host town or city around the time of the visit. There was no official British Association sermon, and the association did not endorse the range of Sunday activities that surrounded it. But still, the Sunday of the British Association meeting – when all official business was suspended and members were free to engage in various acts of worship – is an indelible part of the history of the association.

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1 Jack Morrell and Arnold Thackray, *Gentlemen of Science: Early Years of the British Association for the Advancement of Science*, Oxford: Oxford University Press, 1981, p. 229.

Its importance was secured, particularly, after the organizers of the week-long 'parliament of science' more rigidly adopted a Wednesday-to-Wednesday format, leaving Sunday as the mid-point in the association's week.

This paper focuses on the 1870s, the decade most implicated in the 'conflict thesis' – the idea of eternal warfare between science and religion. As Geoffrey Cantor has argued, it was in the 1870s that conflict 'took root' and 'science became a weapon to be wielded in public attacks on religion'.[2] Implicated, too, in the 'conflict thesis' is John Tyndall's infamous 'Belfast Address' to the 1874 meeting of the British Association. Tyndall's perceived scientific materialism was viewed as an attack on the fundamental tenets of Christianity and shook 'contemporaries in a manner almost incomprehensible today'.[3] Much discussion of the association in the 1870s is dominated by reflection on Tyndall's remarks and, according to Ann Hopper, his address created an 'air of suspicion and sense of unease' that surrounded the association and 'lingered for years', affecting 'their public image.'[4]

Little attention, however, has been paid to the sermons preached at the association – who was preaching, what they were saying and to what audience. This paper addresses this imbalance and focuses on the range of sermons preached in connection with the British Association meetings in the 1870s. In particular, attention is given to the differing views on the relationship between science and religion in the homiletic record, and the rhetoric of 'science–religion conflict' following John Tyndall's 1874 'Belfast Address'. The paper concludes with some general remarks on the implications the sermons have for any general thesis of nineteenth-century secularization.

Science and sermons: preaching in Victorian Britain

The age of Queen Victorian was the 'golden age of preaching', with Hammond estimating that over fifty thousand sermons were preached every week within the Established Church alone.[5] The Baptist minister Charles Spurgeon's Sunday sermon was published weekly, reportedly selling 25,000 copies at a time.[6] Sermons, and pulpit culture, played an important role in the social and religious life of the Victorians.[7] Yet comparatively little attention has been given to the study of sermons

2 Geoffrey Cantor, 'What shall we do with the "conflict thesis"?', in Thomas Dixon, Geoffrey Cantor and Stephen Pumfrey (eds.), *Science and Religion: New Historical Perspectives*, Cambridge: Cambridge University Press, 2010, pp. 283–299, 294.

3 Frank Miller Turner, *Contesting Cultural Authority*, Cambridge: Cambridge University Press, 1993, pp. 34–37.

4 Ann Hopper, 'Was Canada in the provinces? The reassessment of 1881', *Transactions of the Royal Society of Canada* (1982) 20, pp. 478–488, 482.

5 Hughes Oliphant Old, *The Reading and Preaching of the Scriptures in the Worship of the Christian Church: Moderatism, Pietism, and Awakening*, Grand Rapids, MI: Eerdmans Publishing, 2004, p. 347; Peter Hammond, *The Parson and the Victorian Parish*, London: Hodder and Stoughton, 1977, p. 117.

6 R.J. Helmstadter, 'Spurgeon in outcast London', in P.T. Phillips (ed.), *The View from the Pulpit*, Toronto: Macmillan, 1978, pp. 139–341, 167.

7 See, for example, Robert Ellison (ed.), *A New History of the Sermon: The Nineteenth Century*, Leiden: Brill, 2010.

in the context of science.[8] Certainly, the vast array of sermons preached at the British Association has received no attention, with the exception of the association's 1860 and 1874 meetings.[9] Thomas Henry Huxley recognized the cultural power of the sermon, naming his collection of essays, addresses and reviews 'Lay Sermons', aware that the 'double meaning was provocative'. He even took advantage in the late 1860s of the influence of Sunday pulpits, extolling the 'wonders of science' and instilling a new reverence in the working class in his Sabbath sermons at Covent Garden.[10]

The record of sermons preached at the British Association, from 1831, is fragmentary, although the number of surviving accounts increases significantly from the mid-1850s, and there are several published accounts for each year.[11] This study draws largely on published accounts between 1870 and 1879, and where gaps in the homiletic record exist they have been filled with coverage from local and national newspapers. However, as the homiletic literature of 1874 refers almost exclusively to Tyndall's 'Belfast Address' this has been excluded from the analysis.[12] In the 1870s Anglican preachers dominate the record, although Unitarians are particularly prominent, followed by Congregationalists, Presbyterians, Baptists and Methodists (see Table 1).[13] Catholic sermons directly addressing the British Association are rare, and this is consistent with Wolffe and Sheetz-Nguyen's studies; published accounts

8 For recent work, however, see Diarmid Finnegan, 'Exeter-Hall science and evangelical rhetoric in mid-Victorian London', *Journal of Victorian Culture* (2011) 16, pp. 46–64.

9 As only two examples, see David N. Livingstone, 'Darwinism and Calvinism: The Belfast–Princeton connection', *Isis* (1992) 83, pp. 408–428; and John Brooke, *Science and Religion: Some Historical Perspectives*, Cambridge: Cambridge University Press, 1991, p. 41.

10 Adrian Desmond, *Huxley: From Devil's Disciple to Evolution's High Priest*, Reading, MA: Addison-Wesley, 1997, pp. 626, 344. See also Paul White, *Thomas Huxley: Making the 'Man of Science'*, Cambridge: Cambridge University Press, 2003, p. 102.

11 For example Nottingham 1866, of which five published sermons are available, includes Clement Clemance, *Science: Its Strength and Weakness: A Sermon, Preached at Castle Gate Chapel, Nottingham, on the Occasion of the Visit of the British Association for the Advancement of Science, on Sunday Evening*, London: Hamilton and Adams & Co., 1866; Charles Pritchard, *Continuity of the Schemes of Nature and of Revelation: A Sermon Preached, by Request, on the Occasion of the Meeting of the British Association at Nottingham; with Remarks on Some Relations of Modern Knowledge to Theology*, London: Bell and Daldy, 1866; Daniel Moore, *Unsearchableness of God: A Sermon, Preached at St. Matthew's Church, Nottingham, on Sunday, 26th August, 1866, on the Occasion of the Meeting of the British Association for the Advancement of Science*, London: Rivingtons, 1866; P.W. Clayden, *The Bible and Science: A Sermon Preached on Sunday Evening, August 26, 1866, in the High Pavement Chapel, Nottingham, with Reference to the Meeting of the British Association for the Advancement of Science*, London: Whitfield, 1866; and W.H. Lyttelton, *Holy Scripture the Witness to the Revelation of God in All Facts: A Sermon Preached at St. Michael's Church, Handsworth, during the Annual Meeting of the British Association for the Advancement of Science*, London: Macmillan, 1866.

12 Tyndall's address, on Wednesday evening, preceded the Sunday sermons, giving Belfast's preachers ample time to adjust their advertised sermons to reflect their outrage. For primary examples see J. Macnaughtan, *The Address of Professor Tyndall, at the Opening of the British Association for the Advancement of Science, Examined in a Sermon on Christianity and Science*, Belfast: Aitchison, 1874; James Christopher Street, *Science and Religion: A Sermon Preached in the Church of the Second Congregation, Belfast, during the Meetings of the British Association, on Sunday, August 23, 1874*, London: Whitfield, 1874. For overviews see Livingstone, op. cit. (9); Ruth Barton, 'John Tyndall, pantheist: a rereading of the Belfast Address', *Osiris* (1987) 3, pp. 111–134.

13 This table reflects the availability of sermons, and not the full record of sermons preached in the 1870s.

Table 1. *The number of available sermons preached during the British Association meetings of 1870–1879, excluding 1874*

Type of service	Number of sermons
Anglican	16
Unitarian	7
Presbyterian	5
Congregational	5
Baptist	2
Methodist	2
Unknown	2
Total	**39**

are scarce, but where present they are usually political or 'take a defensive posture' to explain Catholic doctrine.[14] The first sermon to be easily identified as Catholic was addressed to the British Association at the 1897 Toronto meeting.[15]

The religious geography of nineteenth-century Britain impacted upon who, or what, was preached during the British Association meeting.[16] For example, different regions had distinct preaching cultures.[17] But, more significantly, space, or local cultures, were decisive in shaping homilies, as the content of sermons was often inflected by the character of the host town or city, with many preachers featuring prominent local men of science or notable local discoveries in their homilies.[18] Sermons also reflected temporal trends, from commentary on the most recent utterances of the British Association president to, more commonly, advances or controversies in science.[19]

14 See John Wolffe, 'Responding to national grief: memorial sermons on the famous in Britain 1800–1914', *Mortality* (1996) 3, pp. 283–296. Jessica Sheetz-Nguyen, 'Catholic preaching in Victorian England', in Ellison, op. cit. (7), pp. 207–233, 215.

15 'Two notable sermons', *The True Witness and Catholic Chronicle*, 25 August 1897, p. 4. There is evidence for earlier, less formal addresses, such as Rev. Dr Olliffee's informal address to the BA expedition in Cork, 1843. See the *Southern Reporter*, 29 August 1843; and *Cork Examiner*, 28 August 1843.

16 See, for example, K.D.M. Snell and P.S. Ell, *Rival Jerusalems: The Geography of Victorian Religion*, Cambridge: Cambridge University Press, 2000.

17 Wil Griffith, 'Edward Matthews, the Nonconformist pulpit and Welsh identity during the mid-nineteenth century', in Robert Pope (ed.), *Religion and National Identity: Wales and Scotland c.1700–2000*, Cardiff: University of Wales Press, 2001, pp. 61–83.

18 At Bristol, in 1875, for example, the work of Bishop Butler, former Bishop of Bristol, featured heavily in Pritchard's address. See Charles Pritchard, 'The breadth of God's commandment', *Good Words* (1875) 16, pp. 843–847. Fraser MacDonald's account of the church in Presbyterian Scotland is revealing in its analysis of the importance of space in practices of worship. See Fraser MacDonald, 'Towards a spatial theory of worship: some observations from Presbyterian Scotland', *Social and Cultural Geography* (2002) 3, pp. 61–80.

19 As one example, Bishop Wilberforce, in his sermon to the association, subtly attacked Chambers's *Vestiges of the Natural History of Creation* at the Oxford meeting in 1847. See James Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of* Vestiges of the Natural History of Creation, Chicago: University of Chicago Press, 2000, pp. 426–435.

In the nineteenth century, a preacher's denomination impacted the style, and content, of a sermon. Nonconformist ministries, broadly, placed greater emphasis on exposition of the Gospels, positioning the homily at the heart of the service.[20] Scots Presbyterians, too, placed much greater emphasis on the preaching of the Word over any other sacraments.[21] In contrast, unlike the Nonconformist or Presbyterian pulpit, preaching in the Established Church was more formally regulated, especially after the introduction of the 1874 Public Regulation Act which sought to moderate ritualism in the Church.[22] In the Anglican tradition the sermon marked the transition between the 'preparation' and 'consecration' of the Eucharist, and was subservient to it. Yet, despite these subtle differences, preaching was generally the most important role for many ministers.[23]

Christiane d'Haussy has shown that sermons satisfied both religious and secular functions.[24] On the one hand, the religious role of sermons involved proclamation, instruction and (re)confirmation of God's Word to the congregation. On the other, sermons provided political and social instruction, or even entertainment.[25] However, imparting religious truths – teaching – was perhaps the most important function of any sermon. Certainly, sermons preached at the British Association were almost always didactic, instructing the congregation on the relationship between science and religion.

Sermons preached at the association not only reflected the attitudes and beliefs of preachers but were 'responsive to the expectations and sensibilities of those listening'.[26] This was not a normal Sunday service, as considerably more time was invested in preparation of a sermon that was to be preached at the association than on the average Sunday.[27] Owen Chadwick's description of the rustic country parish, or even George Eliot's country congregation, 'of quiet perceptions, undiseased by hypothesis', are quite different settings to that of the annual convocation of the 'parliament of science'.[28] The preachers who sermonized to the members of the

20 Christiane d'Haussy, *English Sermons: Mirrors of Society*, Toulouse: Presses Universitaires du Mirail, 1995, pp. 20–25; Gerald Parsons, *Religion in Victorian Britain: Interpretations*, Manchester, Manchester University Press, 1989, p. 100. See also Old, op. cit. (5), pp. 34–348; and Griffith, op. cit. (17), pp. 61–83.

21 Andrew Drummond and James Bulloch, *The Church in Victorian Scotland 1843–1874*, Edinburgh: Saint Andrew Press, 1973, p. 33. See also William Enright, 'Urbanization and the Evangelical Pulpit in Nineteenth-Century Scotland', *Church History* (1978) 47, pp. 400–407.

22 See Nigel Yates, *Anglican Ritualism in Victorian Britain, 1830–1910*, Oxford University Press, 1999, p. 235.

23 Owen Chadwick, *The Victorian Church*, 2nd edn, London: A. and C. Black, 1987, p. 172.

24 D'Haussy, op. cit. (20), pp. 21–22.

25 D'Haussy, op. cit. (20), pp. 21–22.

26 See Wolffe, op. cit. (14), pp. 283–296.

27 See, for example, Charles Pritchard's correspondence to his bishop in January 1867, in which he has already begun preparing for his September sermon to the members of the British Association in Dundee. Charles Pritchard to the Bishop, 18 January 1867, University of Dundee Archives, Dundee, BrMS 1/4/2/824.

28 Chadwick, op. cit. (23), p. 172. George Eliot, *Adam Bede*, Edinburgh: Blackwood and Sons, 1859, p. 473. Eliot, more seriously, attacked Evangelical preachers in 'Evangelical teaching: Dr. Cumming', *Westminster Review* (1855) 64(126), p. 436.

British Association knew their audience; they were aware that their discourses would be widely published and digested.

Further, the pulpit provided an opportunity for preachers to broaden their reputation – either locally or nationally. Charles Pritchard, for example, became known as the association 'chaplain' given his frequent appearance in the Sunday pulpits during BA meetings.[29] The pulpit also provided an important opportunity for preachers to discourse on their view of the relationship between science and religion to some of the leading figures in British science. This was a rare chance: the association's peripatetic cycle was lengthy and return visits limited.

The significance attached to the sermons meant that, while there is no evidence that the British Association had an official sermon, the distinction between official and unofficial is difficult to discern. For example, the 1875 BA president, Sir John Hawkshaw, privately requested the publication of Henry Crosskey's sermon, preached during the 1875 Bristol meeting of the BA.[30] Also, members of the association were often invited to preach in the local pulpits.[31] And, at times when services were attended by leading members of the association, or indeed preached by leading members, such as William Dallinger's discourse at the 1884 Montreal meeting of the British Association, the local press could not easily distinguish between the British Association and private views, of a leading member, made public.[32] In the eyes of the local press, this was 'the British Association on its knees'.[33] For example, at the infamous 1860 Oxford meeting, the Broad Churchman Frederick Temple preached a sermon to the members of the association, loosely in support of evolution.[34] However, Temple's sermon was not officially authorized by the association, although the 'High Church' *Christian Remembrancer* responded to it as if it was.[35]

The British Association Devotional Meeting, too, blurred the line between official association business and associated religious activity. This was not, in any sense, an official service, nor were the sermon or prayers offered sanctioned by the association. But, beginning in the 1860s, an invitation would be extended to BA members and the

29 A.M. Clerke, 'Pritchard, Charles (1808–1893)', rev. Anita McConnell, *Oxford Dictionary of National Biography*, Oxford, 2004, available at http://www.oxforddnb.com/view/article/22819, accessed 6 December 2010. See also Ada Pritchard, *Charles Pritchard, Late Savilian Professor of Astronomy in the University of Oxford Memoirs of his Life*, London: Seeley & Co. Ltd, 1897, pp. 174–175, for a list of sermons that he preached at the association.

30 See Richard Armstrong, E. MacCarthy and Charles Lapworth, *Henry William Crosskey: His Life and Work*, Birmingham: Cornish Bros, 1895, p. 197.

31 See, for example, 'Church notices', *Montreal Gazette*, 30 August 1884, p. 3.

32 W. Dallinger, *Sermon and Lecture Delivered in the St. James Street Church, and the James Ferrier Hall, Theological College, during the Session of the British Association at Montreal, August, 1884*, Montreal: Gazette, 1884.

33 'Pulpit themes yesterday', *Montreal Daily Star*, Monday 1 September 1884, p. 1.

34 Brooke, op. cit. (9), p. 41.

35 'A sermon preached before the University of Oxford, on Act Sunday, July 1st 1860, by the Rev. F.D. Temple D.D.', *Christian Remembrancer: A Quarterly Review* (1860) 40, pp. 237–261. Frank James repeats the assertion that this was an official British Association sermon; see Frank James, 'An "open clash between science and the church"? Wilberforce, Huxley and Hooker on Darwin at the British Association, Oxford, 1960', in David M. Knight and Matthew D. Eddy (eds.), *Science and Beliefs: From Natural Philosophy to Natural Selection*, Aldershot: Ashgate, 2005, pp. 171–215, 181.

public, via a circular delivered during the meeting, or as an invitation sent every year, without fail, to the association's secretary.[36] Organized by John Hall Gladstone, the Christian educationalist and chemist, who attended over fifty British Association gatherings, the meetings were evangelical in tone.[37] The Devotional was non-denominational and attended by various leading members and local secretaries, including Balfour, Gladstone and the Canadian John William Dawson; members were frequently leafleted during the sections and in the refreshment rooms.[38] Thus the boundaries between what was official and what was considered official were not always clear, certainly in the eyes of the public.

The sermons come in a range of formats, including individually published sermons, reports in local and national newspapers and reviews in periodicals, as well as personal reminisces, including diary entries and letters. Documentation of sermons preached at the association, therefore, extends from quite complete accounts to brief descriptions. On top of this, unless explicit in the title, for example Drummond's *The Union and Reciprocal Influences of Science and Religion: A Discourse, Occasioned by the Meeting of the British Association in Dublin*, or indicated by the press in their coverage, it is difficult to identify sermons that specifically address the British Association.[39] All of this makes defining the conditions for a particular discourse to be considered a sermon preached 'at' the British Association difficult.[40] Broadly, those under consideration were preached in the week preceding, the week during, or the week immediately following the visit of the association to a host town or city, and directly address the association's visit or prominent scientific issues. However, this definition is contingent on, and subject to, the particularities of each meeting.

The local press usually carried advertisements explicitly promoting upcoming services.[41] Frequently these adverts drew attention to the most prestigious services of the day, and often reflected the services that were best attended. This is important. Although sermons were preached in various local churches, halls and meeting rooms of the host city, some venues were more prominent than others. For example, in 1871 the Glasgow divinity professor, John Caird, addressed at the High Kirk of Edinburgh – the Mother Church of Presbyterianism – a congregation 'largely made

36 See for example letter to G.J. Symons, MS. Dep BAAS 156.

37 On the Devotional Meeting see Peter Collins, 'The origins of the British Association's Education Section', *British Journal of Educational Studies* (1979) 27, p. 243. At the 1874 Belfast meeting, the Devotional Meeting met on the Sunday, and every morning of the meeting at 9.30 a.m. Although no records of their services are available, see *Belfast News-Letter*, Saturday 22 August 1874.

38 'Sunday afternoon meeting, in Morrice Hall', *The Gazette*, 1 September 1884, p. 6.

39 W.H. Drummond, *The Union and Reciprocal Influences of Science and Religion: A Discourse, Occasioned by the Meeting of the British Association in Dublin; and Published at the Request of Many Who Heard It Delivered in the Presbyterian Church of Strand-Street*, London: Harper, 1835.

40 The warrant for using 'sermons preached at the British Association' comes from William Allingham's commentary on the 1871 Edinburgh meeting, in which he notes, 'A somewhat questionable fashion has sprung up of preaching special sermons *at* the British Association in every town which they honour with their presence.' See Patricuis Walker [William Allingham], 'Rambles', *Frasier's Magazine*, October 1871, pp. 458–480, 469.

41 See the *Belfast News-Letter*, 22 August 1874, p. 4, for an exhaustive list of upcoming sermons.

up of members of the Association'.[42] Similarly, it is reported that at Brighton the Devotional Meeting was held at the magnificent Royal Pavilion – the same venue in which W.B. Carpenter gave his Presidential Address – and this, too, was 'very well attended' by members of the association.[43] However, beyond merely advertising the association's visit or the sermons preached at the BA, the provincial press, at the time of any meeting, often provided an exhaustive list of the services and preachers who spoke on topics related to the association. This varied by city, but is often the most profitable means by which to explore the religious discourse preached at the association.[44]

With this in mind, it is pertinent to turn to the content of the sermons and outline the varying views on the relationship between science and religion, before exploring the 'rhetoric of conflict' in the 1870s and the broad reaction to Tyndall.

Sermons preached at the association: relating science and religion

John Tyndall's 1874 'Belfast Address' was shocking, not only in its perceived materialism, but in the assertion that all religious 'schemes and systems' must 'submit to the control of science'.[45] Explicit in Tyndall's pronouncement was an attempt to 'police the boundaries between science and religion'.[46] However, Tyndall's view on the relationship between science and religion was antithetical to that held by many of those who preached at the association in the 1870s. This is important. As Brooke and Cantor have argued, religious beliefs materialize 'in the discussion of scientific methodology', or in the acceptance of a theory, or in the reaction to science more broadly. As such, an awareness of how these preachers related science and religion is crucial in understanding their later reaction to Tyndall's address, and the British Association more broadly, in the 1870s.[47]

However, this is not without difficulty. Brooke, again, has warned against discussing science and religion in 'essentialist terms' that obfuscate understanding by 'importing anachronistic boundaries'.[48] For many, science and religion were not discrete entities; the 'sacred and the secular' were in unison.[49] Discussion, then, of *the*

42 *The Scotsman*, 7 August 1871, p. 2; Walker [Allingham], op. cit. (40), pp. 468–469.

43 'The devotional meeting', *Brighton Daily News*, Tuesday 20 August 1872, p. 15; 'British Association', *Athenaeum*, 17 August 1872, p. 208.

44 For an excellent example see 'Clerical arrangements for Sunday', *The Scotsman*, 5 August 1871, p. 6.

45 John Tyndall, *Address Delivered before the British Association Assembled at Belfast: With Additions*, London: Longman, 1874, p. 61.

46 Bernard Lightman, 'Scientists as materialists in the periodical press: Tyndall's Belfast Address', in Geoffrey Cantor and Sally Shuttleworth (eds.), *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*, London: MIT Press, 2004, pp. 199–237, 200–201.

47 John Brooke and Geoffrey Cantor, *Reconstructing Nature: The Engagement of Science and Religion*, Edinburgh: T. and T. Clark, 1998, pp. 26–27. See also Andrew Holmes, 'Presbyterians and science in the north of Ireland before 1874', *BJHS* (2008) 41, pp. 541–565.

48 John Hedley Brooke, 'Religious belief and the content of the sciences', in John H. Brooke, Margaret Osler and J. Vander Meer (eds.), *Science in Theistic Contexts: Cognitive Dimensions*, Chicago, University of Chicago Press, 2001, pp. 3–28, 15.

49 Brooke, op. cit. (48), p. 15.

relationship between science and religion is not wholly appropriate, especially in cases where the individuals did not recognize any separation. But at the same time, many of the preachers did discuss science and religion in discrete terms, before commenting on how they were or were not related; insight into these views is important. Mindful of this caveat, it is appropriate to turn to the sermons preached at the association in the 1870s, and analyse the different ways in which science–religion relations were configured.

Often a preacher's view on the relationship between science and religion was evident from the opening page of the published account, as the sermons, regardless of denomination, were always framed by a didactic biblical passage. This reflected the pedagogical purpose of the sermons; the authors intended to instruct the congregation on science–religion relations.[50] In his survey of memorial sermons in the nineteenth century, Wolffe notes the preference for Old Testament texts in ministering to the congregation on a particular theological point.[51] This broadly accords with the sermons preached at the British Association in the 1870s, with selections from the Book of Psalms dominating.

Frequently, the preacher would also use the opening passage to structure his discourse, often rhetorically linking the beginning with the end, and relate science to religion. A suitable example is the 1870 sermon of the Reverend Abraham Hume, honorary local secretary for the association, who quoted Psalm 100:24, 25, 'O Lord, how manifold are thy works! In wisdom hast thou made them all; the earth is full of thy riches. So is the great and wide sea, wherein are things creeping innumerable.'[52] Hume used the passage to argue that 'God's works' – 'God's books' of nature and Scripture – both reveal him, and are allies.[53] More explicit, the Anglican Charles Coombe, speaking at the 1879 Sheffield meeting, used Acts 7:26 with Psalm 34:3, 'Sirs, ye are brethren; why do ye wrong one to another? O magnify the Lord with me, and let us exalt His name together.'[54] Coombe employed the texts, five years after Tyndall's address, to argue against antagonism between science and religion; in his eyes both should stop 'maligning, biting and devouring' each other as they were closely related.[55]

However, beyond the focus on individual accounts, it is possible to map three broad configurations of science–religion relations evident in the sermons examined here. These three 'positions' on the relationship between science and religion are dominant in the record throughout the 1870s.

50 D'Haussy, op. cit. (20), pp. 22–24.

51 Wolffe, op. cit. (14), p. 288.

52 A. Hume, *Connexion between Science and Religion: A Sermon Preached at Christ Church, Kensington, Liverpool, 18th September, 1870, during the Meeting of the British Association for the Advancement of Science*, Liverpool: Adam Holden, 1870, p. 1.

53 Hume, op. cit. (52), p. 30.

54 Charles Coombe, *'Sirs, Ye are Brethren;' or Science and Religion at One: Sermon Preached in St. Paul's Church, Sheffield, on the Occasion of the Meeting of the British Association, August 24th*, Sheffield: Thomas Widdison, 1879, p. 1.

55 Coombe, op. cit. (54), p. 5.

First, for some, the relationship between science and religion was underpinned by the idea that they were essentially separate entities. As an example, the Anglican vicar of All Saints', Bradford, Henry Leach, viewed science and religion as belonging to two exclusive spheres – one concerned with theology, the other the physical world.[56] Leach separated science and religion, and acknowledged conflict as an outcome as he recognized that 'discords' between the two are to be expected 'when the different spheres of science and religion and the limited nature of our human faculties are taken into account'.[57] Both spheres were ultimately concerned with separate ideas, methods and questions. This, we might suggest, approximates to Ian Barbour's 'independence' strategy, which he characterizes as a loose movement that upheld the Bible as a divine, but fallible, record, and which was also suspicious of natural theology as a way of knowing God – as 'it relies on human reason'.[58] One could not learn about God from nature. Lightman has identified this particular view with liberal Anglicans in the later half of the nineteenth century who utilized it as a strategy to protect religion from the incursions of science and vice versa.[59] Curiously, Leach was the only preacher in the sermons of the 1870s to explicitly identify with this position, despite the association's close historical connection to this view.[60]

Unitarians, too, played an important role in the history of the British Association in the nineteenth century and had much in common with liberal Anglicans. Throughout the sermons preached at the association in the 1870s, many of the Unitarian preachers espoused a science–religion position similar to that of Leach. Yet, crucially, there were subtle differences that set them apart. Speaking in 1870, for example, the itinerant preacher Charles Wicksteed, part of the 'new school' in English Unitarianism, was content to separate science and religion into the spheres of physical and spiritual knowledge as they were different modes of God's voices, and should not be judged against each other.[61] However, where many liberal Anglicans maintained that science could know nothing of God, Wicksteed asserted that we 'fear to trust the voices separately' – as nature, too, was divine. For many Unitarians, science and religion were different forms of divine knowledge of God.

Taking this farther, the Unitarian-socialist William Sharman in 1877 Plymouth, in the context of conflict, noted that there was no need for reconciliation between science and religion as, ultimately, 'the service of science has been the service of God'. Science uncovered the fundamental truth that 'God is law' and there was little want for a dogmatic, 'outworn theory of magical

56 Brooke calls this the 'separationist position'; see Brooke, op. cit. (9), pp. 3–4.

57 Henry Leach, *Affinities of Science and Religion: A Sermon Preached . . . during the Visit of the British Association*, Bradford: Sewell, 1873, pp. 5–6.

58 Ian Barbour, *Religion and Science: Historical and Contemporary Issues*, London: SCM Press, 1998, p. 85.

59 Bernard Lightman, 'Victorian sciences and religions: discordant harmonies', *Osiris* (2001) 16, pp. 345–348.

60 See Morrell and Thackray, op. cit. (1), pp. 225–229.

61 Charles Wicksteed, *The Divine Voices in the World: A Sermon Preached . . . on the Occasion of the Meeting of the British Association for the Advancement of Science*, London: Whitfield, 1870, p. 15. On Wicksteed see Philip Henry Wicksteed, *Memorials of the Rev. Charles Wicksteed*, London: Williams and Norgate, 1886.

Christianity'.[62] This accords with much of the work on Unitarians and science in the nineteenth century, which has shown a broad trend in Unitarianism for ultimate belief in divine law, lingering respect for natural theology, and, as Webb notes, a commitment to the 'objective and external authority of science and criticism'.[63]

In contrast to the liberal Anglicans and the Unitarians, a number of preachers maintained that science and religion were integrated as inextricably linked forms of knowledge. This approaches something like Ian Barbour's 'integrationist' model, which rejects the idea of separate magisteria for science and religion – the two-spheres approach.[64]

As an example, the Reverends Thornton and Hume argued that there was no scriptural warrant to study either God's Works or His Word without reference to the other, as the Book of Revelation and the Book of Nature were divine and part of the same great truth.[65] Science and its conclusions 'had to be limited by religion'.[66] In the same sense, the Anglican Reverend Samuel Potter, in an 'able sermon', commented that science independent of religion was 'power without guidance', and a 'profound mistake'.[67] Separating science and religion was dangerous as, according to the Methodist preacher and theologian William Burt Pope, nature was only a partial revelation and God's personality could not be known, except through Revelation.[68] Revelation was crucial, as it could provide a fuller interpretation of nature and, more

62 William Sharman, *Science: Her Martyrdom and Victory, a Sermon in Treville Street Chapel August 19th 1877 during the Assembly in Plymouth of the British Association for the Advancement of Science*, London: Whitfield, 1877, pp. 4, 6, 11.

63 R.K. Webb, 'Quakers and Unitarians', in Denis G. Paz (ed.), *Nineteenth-Century English Religious Traditions: Retrospect and Prospect*, Greenwood Publishing Group, 1995, p. 86. For primary sources see Charles Beard, *The Place of Theology among the Sciences: A Sermon Preached in Liverpool, September 18th, 1870, during the Meeting of the British Association for the Advancement of Science*, London: Whitfield, 1870; John Bowring, 'Sermons of yesterday', *The Scotsman*, Monday 7 August 1871, p. 6; Henry Crosskey, *The Religious Worth and Glory of Scientific Research a Discourse Delivered in the Lewin's Mead Chapel, Bristol, on Sunday, August 29th, 1875, on Occasion of the 45th Meeting of the British Association*, London: Whitfield, 1875; Sharman, op. cit. (62); Eli Fay, *Science of Course: But What Then? A Sermon Preached before the President and other Members of the British Association for the Advancement of Science, in Upper Chapel, Sheffield, on Sunday, August 24th, 1879*, London: Poole, Paternoster Row, 1879. Charles Wicksteed, op. cit. (61). On Unitarians and science see R.K. Webb, 'The faith of nineteenth-century Unitarians: a curious incident', in Richard Helmstadter and Bernard Lightman (eds.), *Victorian Faith in Crisis: Essays on Continuity and Change in Nineteenth-Century Religious Belief*, Stanford: Stanford University Press, 1990, pp. 126–149.

64 Barbour, op. cit. (58), pp. 98–105. 'Magisteria' is borrowed from Stephen J. Gould; see *Rocks of Ages: Science and Religion in the Fullness of Life*, New York: Ballantine Books, 2002.

65 Robinson Thornton, *God's Work and God's Saints: A Sermon Preached at St. Paul's York Place, on Sunday, August 6, 1871, during the Edinburgh Meeting of the British Association*, Edinburgh: Grant and Son, 1871; Hume, op. cit. (52).

66 Brooke, op. cit. (9), p. 57.

67 Samuel George Potter, *Religion and Science: Being a Sermon [1st Cor. i. 20.] Delivered in St. Luke's Church, Sheffield, on the Occasion of the Meeting of the British Association, August, 1879*, Sheffield: Pawson and Brailsford, 1879, p. 9. For a review of Potter's sermon see 'Philosophy and religion', *Church Portrait Journal*, October 1879, pp. 94–95.

68 William Burt Pope, *God Glorified in His Works and Word: A Discourse Delivered in Manningham Chapel, Bradford, Sept. 21, 1873, on Occasion of the Meeting of the British Association for the Advancement of Science*, Bradford: Wesleyan Conference Office, 1873.

importantly, offer salvation where nature could not.[69] Christian knowledge was joined, but superior, to science and could lay 'a bridle on the headstrong passions which are so strong as urgent to hurry us to sin'.[70]

But, returning to Brooke and Cantor, how did the views of the Unitarians, liberal Anglicans or 'integrationists' affect their reaction to either science or the association?[71] For the 'integrators', the unity of science and religion, broadly, tempered the extent to which they would permit the use of speculation in science; many expressed the views that 'physical and experimental science', the inductive sciences – the theories of Darwin – had sought to 'destroy religion'.[72] Take, for example, the Lord Bishop of Chichester, a High Churchman, preaching at the association in 1872, who argued that it would be 'retrograde' for a believer to 'get his ideas of religion from speculation and experiment' as neither nature nor science could 'interpret the Bible, for they were not intended to do so, but the Bible could throw a marvellous light on nature'.[73] Speaking in 1875 the Anglican Robert Main, astronomer at the Radcliffe Observatory, also noted that speculative science was dangerous, and if science was modest it would not reach 'beyond its province'.[74]

The 'integrationist' position was antithetical to that expressed by the liberal Anglicans, the Unitarians or, more broadly, the scientific naturalists.[75] The 'integrationists' were also perhaps the fiercest critics of Tyndall. In contrast, the Unitarians were, loosely, more permissive of 'speculative science'. At Bristol, for example, the Unitarian Henry William Crosskey, active BA member and geologist, critiqued theologians who were 'busily twisting and ingeniously contorting phrases in the vain attempt to combine opinions they have imagined to be religious'; facts, he argued, were 'divine' and stood alone.[76] Science was unbounded, as it was just another form of divine knowledge. The liberal Anglican Henry Leach, too, encouraged unlimited speculation and progress through science; men of science should freely explore the 'boundless region' before them.[77]

69 J. Estlin Carpenter, *The Influence of Science on the Religious Imagination a Sermon Preached in The Mill Hill Chapel, Leeds, on Sunday, September 21st, 1873: On Occasion of the Meeting of the British Association for the Advancement of Science in Bradford*, London: Whitfield, 1873. Robert Main, *A Sermon Preached at the Church of St. Mary Redcliff, Bristol, on Sunday, August 29, 1875, during the Meeting of the British Association for the Advancement of Science*, Oxford: James Parker, 1875; Pope, op. cit. (68); Potter, op. cit. (67); Pritchard, op. cit. (11) 1875; Charles Parsons Reichel, *The Resurrection: God or Baal? Two Sermons Preached in St. Patrick's Cathedral during the Meeting of the British Association, on Sunday, August 18, 1878*, Dublin: Hodges, Foster and Figgs, 1878.

70 'St Mary's', *Brighton Daily News*, Tuesday 20 August 1872, p. 15; 'London Road Congregational Chapel', *Brighton Daily News*, Tuesday 20 August 1872, pp. 15–16. For additional sermons preached during the Brighton meeting see the same issue, pp. 15–16.

71 Brooke, op. cit. (48), pp. 26–27.

72 Main, op. cit. (69), p. 6.

73 'St Peter's', *Brighton Daily News*, Tuesday 20 August 1872, p. 15.

74 Main, op. cit. (69), p. 9. The Lord Bishop of Chichester, speaking at St Peter's, Brighton, iterated this point; see St Peter's, op. cit. (73).

75 On scientific naturalists and ontology see Lightman, op. cit. (59), pp. 344–346, although he focuses on Huxley.

76 Crosskey, op. cit. (63), p. 7.

77 Leach, op. cit. (57), p. 11.

These three 'positional' readings from the sermons preached at the association – or indeed the labels attached – are not absolute, but reflect the relative degree of emphasis that each group of preachers placed on the relationship between science and religion. Often these views, and the rhetoric used to frame them, are rather more fluid, contingent on time and place.[78] But they do have value, and are useful in mapping the broad views on the configuration of science–religion relations in the literature. And, as stated, an awareness of how preachers viewed the relationship between science and religion aids understanding of their reactions to science and the association in the 1870s – this includes Tyndall's 'Belfast Address'. With this in mind, it is appropriate to turn to the issue of conflict in the context of the sermons preached at the British Association in the 1870s. Particular attention is given to the rhetoric of science–religion conflict and the impact of Tyndall on the association.

Science, religion and sermons: the rhetoric of conflict

Conspicuous, as a topic, in many of the sermons preached at the association in 1870 is acknowledgement, at least in some form, of antagonism between science and religion. Yet, at the same time, the sermons share a common refutation of an essential conflict between science and religion; rather, any antagonism is seen as essentially false and temporary and not representative of *the* relationship between science and religion. Where instances of antagonism occurred, responsibility was attributed to a range of factors and individuals. Crucially, these factors shifted over time and a notable feature of the literature is that the tone of discourse relating to science–religion antagonism – the rhetoric – changes throughout the decade, especially in response to Tyndall's 'Belfast Address'. There is perhaps value in Mrs Whitefield's proclamation, in George Bernard Shaw's *Man and Superman*, that 'nothing has been right since that speech that Professor Tyndall made at Belfast'.[79] Some carefully selected examples will help explain.

A defining feature of 'conflict rhetoric' in the early 1870s, before Tyndall's 1874 attack, was the practice of preachers explaining any science–religion antagonism as a function of a range of factors – including human error, inept theology, overeagerness, a lack of full knowledge of both science and religion, or inattention to the 'varieties of God's voices'. For example, in 1870 Liverpool the Anglican Reverend Hume, ardent educationalist, noted that where the results of science 'appear at variance' with Revelation then there is a need for 'caution' and 're-examination of the ground on both sides, and for clearing away the false human inferences which, by a mixture of boldness and perseverance, we often attach to true premises.'[80] This call for patience, and awareness of human error, was common.

78 Livingstone, op. cit. (9), pp. 408–428; *idem, Putting Science in Its Place: Geographies of Scientific Knowledge*, Chicago: University of Chicago Press, 2003, p. 109.

79 George Bernard Shaw, *Man and Superman*, Rockville, MD: Wildside Press LLC, 2008, p. 146.

80 Hume, op. cit. (52), p. 15.

Inept theology, 'setting Book against Book', was how the moderate Reverend Thornton, Pantonian Professor of Theology at Glenalmond, framed any perceived antagonism between science and religion:[81]

> inconsistencies between the two vanish before the beam of holier light, and prove to be but the mere antagonism of imperfect thesis, or the shadows cast by the mountain-tops of Divine power and love into the deep valleys of human waywardness and human ignorance.[82]

What was necessary, according to Thornton, was study of what 'revelation really says' and a search for 'what nature really says'.[83] Conflict, too, was also framed in the context of overeagerness on the part of men of science in their dogmatic pursuit of the results of science. At the 1872 British Association Devotional Meeting, for example, the congregation were reminded that all investigations must be conducted in a 'reverent and humble tone', with awareness that the pursuit of knowledge should not be so important as to 'lose sight' of personal religion; it was, after all, 'best to walk by faith and not sight'.[84]

Henry Leach of All Saint's, Bradford, too, in 1873, framed difficulties between science and religion within the context of man's insufficient knowledge of nature and God. Antagonism was to be expected, and one should not 'conceal or exaggerate' this, as the 'partial nature of our human knowledge' made it inevitable.[85] The Unitarian Wicksteed attributed the 'want of sympathy which is so often said to exist between the man of religion and the man of science' to the 'imperception of the number and varieties of God's voices'.[86] Similarly, Paxton Hood, a liberal Congregationalist, noted that between the professors of theology and religion and the professors and teachers of science there is 'hostility'. Yet 'there need not be'; although both have been 'intolerant' and uttered 'strange and unworthy sentiments' there are, echoing Wicksteed, 'many ways of looking at the great House of Nature'.[87] Conflict, in both instances, was conceived as the result of inattention to the different modes of God's Word; proponents of any antagonism were not paying attention to what God was saying in his Word and Works.

However, the way of attributing blame for science–religion antagonism – explained as the result of human error, bad theology, overeagerness, insufficient knowledge or inattention to the 'varieties of God's voices' – loses currency after 1874. After Tyndall's 'Belfast Address' the tone of the sermons changes, and crucially, in contrast to the pre-Tyndall association, there is a tendency for preachers to level accusation for promoting science–religion conflict at a distinct group, or groups, particularly the

81 Thornton, op. cit. (65), p. 10. On Thornton see C. Whitaker, *The Church Portrait Journal*, Oxford, 1882, pp. 70–72.
82 Thornton, op. cit. (65), p. 11.
83 Thornton, op. cit. (65), p. 11.
84 'Devotional meeting', *Brighton Daily News*, Tuesday 20 August 1872, p. 15.
85 Leach, op. cit. (57), pp. 6, 15.
86 Charles Wicksteed, op. cit. (61), p. 13.
87 'Queen Square Congregational Chapel', *Brighton Daily News*, Tuesday 20 August 1872, p. 16.

scientific naturalists.[88] Several examples, spanning the second half of the decade, will help elucidate this point.

At the 1875 Bristol meeting, the first post-Tyndall association gathering, the rhetoric firmly places the responsibility for promoting a science–religion conflict in the hands of a distinct section of the scientific community. First, at the Devotional Meeting – attended, we are told, by 'many of the leading scientific men' – J.H. Gladstone attacked 'infidel writers and infidel preachers' who maintained that science and revelation were opposed to one another, utilizing Galton's *English Men of Science* (1874) to refute the idea that 'the majority of scientific men are unbelievers'.[89] Similarly, the language used in the sermons by the Reverends George Deane and Robert Main is also revealing. Any perceived conflict, according to Deane, a Congregationalist preaching to a packed congregation, was the result of the pernicious influence of a dangerous school of thought, comprising 'superficial thinkers who will accept as proved facts the speculations, and inchoate theories, and general vagaries of scientific theory'.[90] And in Main's eyes these dangerous speculators were 'infidels' and as dangerous as the 'soul-destroying doctrines of materialistic Epicurism'.[91] More forceful, the conservative Anglican Reverend Witherby directly attacked the scientific naturalists; it was 'sadly true' that many 'advanced students of nature' were 'backwards in the school of revelation'.[92] And these most learned philosophers were, 'if not atheists, yet atheistical', and Tyndall and Huxley especially 'were decidedly opposed to the notion of God'.[93]

Charles Reichel, professor of ecclesiastical history in the University of Dublin, despaired that never, perhaps, 'since men began to think' was 'there such a crisis as that which seems impending'.[94] Reichel framed conflict as not between science and religion, but between Christianity and the blank face of atheism, 'which is becoming fashionable'. The worship of nature, in his eyes, 'whether scientific, or aesthetic, or voluptuous, is the death's head of annihilation'.[95] Reichel's attack was firmly aimed at the perceived proponents of 'pantheistic materialism', the scientific naturalists who deny the 'possibility of any actual knowledge' of God.[96]

Pearson, an Anglican and fellow of St John's, Cambridge, admitted that one did not have to 'travel far in order to find assertions of absolute materialism' and hostility

88 On the term 'scientific naturalism' see Turner, op. cit. (3), especially Chapter 1.

89 'Yesterday's sermons', *Western Daily Press*, 30 August 1875, p. 7; and 'Religion and science', *Daily Bristol Times and Mirror*, 30 August 1875, p. 3. Galton, however, caveats his work by noting that the definition of religion is somewhat ambiguous, and men of science are likely to 'object to much that others easily accept'. See Francis Galton, *English Men of Science: Their Nature and Nurture*, London: Macmillan, 1874, p. 127.

90 'Religion and science', *Daily Bristol Times and Mirror*, 30 August 1875, p. 4.

91 Main, op. cit. (69), pp. 6–8. Main signed the Scientists' Declaration. See William Brock and Roy Macleod, 'The Scientists' Declaration: reflexions on science and belief in the wake of "Essays and Reviews", 1864–5', *BJHS* (1976) 9, pp. 39–66, 41, 46.

92 'The Bible and science', *Bristol Daily Post*, 6 September 1875.

93 'The Bible and science', op. cit. (92).

94 Reichel, op. cit. (69), p. 38.

95 Reichel, op. cit. (69), pp. 37–38.

96 Reichel, op. cit. (69), p. 37.

to religion.[97] Christian men could be forgiven for suspicion of science when men of science 'confuse their own inferences with nature's facts', when they were dogmatic, or their exclusive attention to a 'special class of inquiries' makes them slow to give weight to 'considerations which lie outside'.[98] Again, Pearson's suspicion – and the language used – was targeted at the biologists and 'professors of materialism' who – without empirical basis – claim that life is 'but dots of animated jelly' without giving consideration to the 'whence, and why, and whither'.[99]

Also Samuel Potter, speaking in 1879 Sheffield, rejected the idea that the British Association was hostile to religion, or that there was a fundamental collision between the 'odium theologicum' and 'odium scientificum'. Rather, Potter, vicar of Hollis Croft, castigated 'scientific philosophy', which, in this 'sceptical age', was being substituted for true religion. Potter framed conflict within the context of antagonism from the scientific naturalists, with particular concern shown towards the pernicious influence of the ancestors of Lucretius – the Darwinists – the face of 'modern scepticism', or 'unbelief done up in a new dress.'[100]

The incumbent vicar of St Thomas's, Sheffield, and former Cambridge fellow, Charles Coombe, too, refuted a broader conflict between science and religion and echoed Potter and Pearson in noting that any antagonism between science and religion was firmly attributed to a limited number of particular advocates of science.[101] The 'lamentations uttered of late by [these] distinguished materialists' and atheists were vacuous. And, to prove Coombe's point, he quotes George Romanes and his confession that the loss of God has meant that the 'universe has lost its soul of loveliness'.[102] The Unitarian Eli Fay refuted Herbert Spencer and John William Draper and their descant on the conflict between science and religion. In Fay's eyes, antagonism was the result of the injurious influence of 'materialistic tendencies'.[103]

The propensity for preachers to level accusation at a distinct group, or groups, after 1874 in the sermon record is further confirmed by a rudimentary analysis of shifts in labelling. Throughout, labels used to describe the antagonists include 'dogmatic scientists', 'materialists', 'atheists' and, on only one occasion 'agnostics' – although this is not directly in the context of according blame.[104] These labels, it is argued,

97 J.B. Pearson, *Nature and Man: A Sermon, Preached in St. Mark's Church, Sheffield, on Sunday, August 24, 1879, on the Occasion of the Visit to the Town of the British Association for the Advancement of Science*, Sheffield: Widdison, 1879, p. 11.

98 Pearson, op. cit. (97), p. 7.

99 Pearson, op. cit. (97), p. 14.

100 Potter, op. cit. (67), p. 9.

101 Coombe, op. cit. (54), p. 10.

102 Coombe, op. cit. (54), p. 11.

103 Fay, op. cit. (63), pp. 7–10, p. 20.

104 For 'dogmatic scientists', for example, see Pearson, op. cit. (97), p. 7. For 'materialists' see Main, op. cit. (69), p. 14; Reichel, op. cit. (69), p. 37; Pearson, op. cit. (97), p. 11. For 'atheists' see Coombe, op. cit. (54), p. 10. For 'agnostics' see Potter, op. cit. (67), p. 8. On the use of the term 'agnostic' in the 1870s see Bernard Lightman, 'Huxley and scientific agnosticism: the strange history of a failed rhetorical strategy', *BJHS* (2002) 35, pp. 271–289. As just one example, see Witherby, 'The Bible and science', *Bristol Daily Post*, 6 September 1875, for discussion of scientific naturalists.

were used interchangeably, and Huxley and, especially, Tyndall were common targets for criticism. In the available sermons after 1874 the most common labels, or individuals, used in connection with science–religion antagonism include 'materialists' (fourteen), atheists/unbelievers (seven), Tyndall and Huxley (eleven) or even Lucretius (four). In contrast, the sermons prior to Tyndall's 'Belfast Address' feature these terms much less – 'atheist' (three), 'pantheist' (two) and 'materialists' (two). Importantly, more often the use of these terms in the pre-Tyndall era is largely in the context of broader society, and not necessarily directed at scientists involved in promoting a conflict. The Methodist W.B. Pope, in 1873, for example, rejects the 'theory of materialism' which has, of late, been 'devised among the manifold mediations of men's hearts'; similarly, he shows concern that 'one of the strangest perversions of man's baffled thought has been the theory that identifies God with His universe', pantheism.[105] Yet a thorough exegesis reveals that he is discussing not conflict, but the tendency in science to try and explain all 'by natural laws'.[106]

Given the influence Tyndall's 'Belfast Address' had on the 'conflict' discourse around the association, what effect did this have on the reputation of the association? Ann Hopper, speaking in the context of the association in the 1880s, has argued that Tyndall's address 'lingered for years' and affected the public image of the association.[107] Yet the stance adopted by the preachers towards the association, and the rhetoric they used, does not reflect this. Rather, throughout the sermon record in the 1870s, in the context of hostility to religion, the British Association was without exception received favourably; little criticism is ever directed at the association as a body. More often, any criticism is apportioned to the 'the eccentricities of individual cultivators of science', of which, in terms of their potentially hostile views, 'we can say nothing'.[108] Perhaps this is unsurprising; the association's reputation for 'holidaymaking' by 'men of leisure and long purses' may have tempered more direct criticism by individuals, keen for their town or city to take advantage of the economic opportunities afforded by the visit.[109]

Yet it is noteworthy that for one Anglican it was difficult to imagine that a body hostile to religion would be associated with the 'flower of our population … intellectual research, moral worth and social position'.[110] The association was praised not only for 'enlarging and defining our conception of the wonderful creations of God', but, as one Presbyterian noted, for 'unfolding the behaviour of the material universe'.[111] The panegyric character of the sermons, favourable to the association as a body, was sustained throughout the decade.[112]

105 Pope, op. cit. (68), p. 11.
106 Pope, op. cit. (68), p. 10.
107 Hopper, op. cit. (4).
108 Hume, op. cit. (52), p. 22.
109 *The Times*, 30 March 1883, p. 9.
110 Hume, op. cit. (52), p. 22.
111 'St Mary's', op. cit. (70), pp. 15–16; 'London Road Congregational Chapel', op. cit. (70), pp. 15–16.
112 Fay, op. cit. (63); Potter, op. cit. (67); Sharman, op. cit. (62); Charles Wicksteed, op. cit. (61); and see Wood in 'Yesterday's sermons', *Western Daily Press*, 30 August 1875, p. 7.

The work of the association, however, was not alone in receiving praise. W.B. Pope in 1873, for example, explicitly commended the association for its practice of turning aside, 'on the Lord's Day of its working week, to sanctify its scientific pursuits and results by bringing them to the House of God'.[113] However, Pope added an addendum, regretting that this Sunday was not 'formally' set aside as a religious day in the programme of the association.[114]

This rhetoric, which portrays the association in a positive light, is important. For one, it demonstrates that the preachers who sermonized at the association deliberately differentiated between the association and the antagonistic statements of some of its members. This is further proof that responsibility for propagating antagonistic science–religion rhetoric was identified with a particular group, and not with the association as a whole. Also, the benevolent attitude to the association in the 1870s in the record of sermons contrasts greatly with views of the association in the 1830s and 1840s. In these early decades the association was attacked by John Bowden, under John Henry Newman's advice, for embracing natural theology, while the Anglican dean of York, William Cockburn, critiqued the association's 'liberal' attitude to Scripture.[115] Thus by the 1870s, certainly in the material studied here, religious attitudes had shifted, and the association was seen, broadly, as an institution favourable to religions and religious groups.

Concluding remarks

Two arguments have been made in this paper. First, attention has been drawn to the rich cultural value of the sermons preached to the British Association's members in the nineteenth century. I have argued that the sermons preached at the British Association provide a unique body of views on the relationship between science and religion across denominations, time and space. Although individual encounters with sermons attached to the association have been well covered in the literature, broader engagements with the homiletic material, or the culture of preaching in the context of nineteenth-century science, are conspicuous by their absence. Attention to this material, therefore, has the potential to enrich and sharpen understanding of the Victorians at the interface of science, religion and preaching.

Second, the 1870s were a crucial decade for both the British Association and the 'conflict thesis', which, according to Cantor, gained currency and momentum in the 1870s.[116] Despite this assertion, the sermons preached at the association are valuable in revealing a broad objection to an essential conflict between science and religion throughout the 1870s. Crucially, perceived conflict between science and religion was explained as an outcome of a number of factors, from inept theology to human error

113 Pope, op. cit. (68), p. 22.

114 Pope, op. cit. (68), p. 22.

115 Morrell and Thackray, op. cit. (1), pp. 225–245; A. Orange, 'The idols of the theatre: the British Association and its early critics', *Annals of Science* (1975) 32, pp. 277–294.

116 Cantor, op. cit. (2).

or overeagerness. However, after Tyndall's 1874 'Belfast Address' more direct responsibility for propagating the rhetoric of science–religion antagonism was firmly laid at a certain group. This group was described using a number of labels, but largely 'materialists' or 'atheists', with emphasis on the role of individuals including Huxley and Tyndall. This accords with the work of both Frank Turner and Bernard Lightman, who have shown that the 'scientific naturalists' were just one group among many vying for cultural control and definition of science.[117] At the same time the material reappropriates Tyndall. Although his 'Belfast Address' was an important event in the 1870s, Hopper's assertion that Tyndall's address created an 'air of suspicion and sense of unease' that surrounded the association does not fully capture the particularities of the situation. Again, as the homiletic literature reveals, Tyndall was only one perceived antagonist amongst a larger group. Further, Hopper's second claim that the 'Belfast Address' 'lingered for years' and affected the 'public image' of the association needs to be refined.[118] Without exception, the association was viewed as a positive brand, with criticism reserved for individuals or groups within the association, and not the body itself.

Finally, it is worthwhile to return to the range of Sunday activities that took place during the British Association meeting. This day, it is argued, is crucial to understanding science–religion relations within the association in the nineteenth century. Secularization, which Brooke defines as 'the displacement of religious authority and control by civic powers and the loss of beliefs characteristic of religious tradition', is a term that can be readily applied to science in the 1870s.[119] With Turner noting that although it was not 'inevitable, unproblematic or systematically steady', there is no doubt that the 'secularization of English and British culture occurred'.[120] Yet the explanatory power of a 'secularization thesis' is diminished in the context of the vast number of Sunday sermons preached at the association. There are a number of problems that need to be resolved.

First, Victorian culture was arguably no less religious in the 1870s than it had been before. As Stewart Brown notes, Britain was a 'fundamentally Christian nation' and people 'attended church Sunday after Sunday, heard sermons, read the Bible' and sang hymns in their millions.[121] Similarly, many Victorian scientists were no less religious. The 'North British Physicists', brought to our attention by Crosbie Smith, are particularly prominent examples of religiously motivated scientists.[122] Yet at the same time Harcourt's 'middle way' – political and religious neutrality – was sustained

117 Lightman, op. cit. (46); Turner, op. cit. (3).

118 Hopper, op. cit. (4), pp. 478–488.

119 John Hedley Brooke, 'That modern science has secularized Western culture', in Ronald Numbers (ed.), *Galileo Goes to Jail and Other Myths about Science and Religion*, Cambridge, MA: Harvard University Press, 2009, pp. 224–232.

120 Turner, op. cit. (3), p. 34.

121 Stewart Brown, *Providence and Empire: Religion, Politics and Society in the United Kingdom, 1815–1914*, Harlow: Longman, 2008, p. 286.

122 Lightman, op. cit. (59), p. 352. Also see Crosbie Smith, *The Science of Energy: A Cultural History of Energy Physics in Victorian Britain*, Chicago: University of Chicago Press, 1998.

and the association forbade religious discussion in sections and, at least rhetorically, in Presidential Addresses. Famously, the association forbade Reverend Watt's paper, a call for peace and cooperation between science and theology, in the Biology Section of the association's meeting in Belfast.[123]

So how is the apparent contradiction solved between a diverse but religious scientific community on the one hand and an exclusion of religion from the association on the other? How did the association appease the religious element of its members within the structure of the meeting, without compromising Harcourt's negotiated *via media*? This problem is resolved if one considers the range of Sunday activities that took place during the British Association meeting as a 'spatial' solution to the 'association problem'. By spatializing, or segregating, the practice of religious beliefs or metaphysical claims to distinct areas of the public sphere, the association could both fulfil rhetorical duty to neutrality and simultaneously serve the religious needs of its members.

Further evidence is provided by the fact that although the association did not officially endorse the Sunday activities of the British Association, it also did not compromise them. The formal Wednesday-to-Wednesday pattern ensured that Sunday was free from any official association functions, giving its members the opportunity to worship privately. Also, a thorough but necessarily incomplete perusal of the record suggests that over twice as many sermons preached at the association are available for the 1860s and the 1870s than for both the 1850s and the 1880s.[124] This accords with the broad time period for Turner's general thesis of secularization, and suggests that as the battle for cultural control intensified, the homiletic community attached to the association reciprocated.[125] Thus spatialization, not a monolithic process of secularization, not only solves the difficulty of an ill-fitting general thesis of secularization, but explains why the vast record of sermons preached at the association contours the Victorian crisis of faith and contest for cultural authority. The connection between science and secularization, as Brooke has recently shown, is rarely 'simple'.[126]

In conclusion, a focus on the array of sermons preached at the British Association not only expands understanding of the dynamics of an association meeting in the 1870s, but draws attention to the importance of preaching and religious praxis in the lives of the association's members. But more than that,

123 See David N. Livingstone, 'Darwin in Belfast', in John Foster and Helena Chesney (eds.), *Nature in Ireland: A Scientific and Cultural History*, Dublin: Lilliput Press, 1997, pp. 387–409.

124 This is based on an extensive collection of sermons preached at the association gathered over the last two years. For each decade the following numbers of sermons are available: 1850s, four; 1860s, twenty-six; 1870s, thirty-five; and 1880s, twenty.

125 Turner, op. cit. (3), pp. 3–37.

126 Brooke has alluded to the potentially limited role science plays in the secularizing dynamic, emphasizing instead the 'ironic pattern' that apologetic strategies – from methodological naturalism to natural theology – may have been more powerful agents of secularization. See John Hedley Brooke, 'Science and secularization', in Peter Harrison (ed.), *The Cambridge Companion to Science and Religion*, Cambridge; Cambridge University Press, 2010, pp. 103–125, 120.

the sermons provide an understanding of the association beyond that of the 'conflict thesis' in which Tyndall's 'Belfast Address' is implicated. Importantly, a consideration of the association, and how they dealt with the diverse religious culture of the Victorians – by tolerating, but not officially supporting, the Sunday sermons – draws attention to just one institutional response to the challenge of this dynamic 'secularizing' age.

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