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# Christians in Science: Looking Back – and Forward

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*Christians in Science had its origins in 1944 in a small gathering of mainly postgraduate students in Cambridge. This group became the nucleus of the Research Scientists' Christian Fellowship (which changed its name in 1988 to Christians in Science). The RSCF was originally a graduate section of the Inter-Varsity Fellowship (now the Universities and Colleges Christian Fellowship), but is now an independent charity and limited company, albeit still retaining close links with UCCF. We review the seventy year history of CiS and its contributions to the maturing discussions in the faith-science area; we see a positive and developing role for the organisation.*

Keywords: Oliver Barclay, Donald MacKay, Reijer Hooykaas, *Essays and Reviews*, Victoria Institute, Research Scientists' Christian Fellowship, God-of-the-gaps, naturalism

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A range of scientific discoveries in the first half of the nineteenth century raised worrying conflicts over traditional understandings of the Bible. The early geologists produced evidence that the world was much older than the few thousand years then assumed, more powerful telescopes showed that the solar system was a very small part of an extensive galaxy, and growing awareness of the plants and animals of the Americas and Australasia led to unsettling suggestions that there might have been several centres of creation. These problems over biblical interpretations became focused in mid-century by Robert Chambers's *Vestiges of the Natural History of Creation* (1844), followed by the *Origin of Species* (1859).<sup>1</sup> They became even more alarming with the appearance of *Essays and Reviews* less than a year after the *Origin*, in which seven theologically liberal authors proclaimed doubts about the divine authorship of the Bible and the possibility of miracles.<sup>2</sup> The controversy evoked by *Essays and Reviews* led in 1864 to a 'Declaration' circulated by a group linked to the Royal College of Chemistry, asserting that 'it is impossible for the Word of God as written in the book of Nature, and God's Word as written in Holy Scripture, to contradict one another, however much they may appear to differ'. This Declaration was eventually signed by 717 people, including 66 Fellows of the Royal Society, around ten per cent of the British membership.<sup>3</sup> This was followed

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1 Secord, J.A. *Victorian Sensation*, Chicago: Chicago University Press (2000).

2 Parker, J.W. (ed.) *Essays and Reviews*, London (1860).

3 Moore, J.R. *The Post-Darwinian Controversies*, Cambridge: Cambridge University Press (1979).

in 1865 by the establishment of the Victoria Institute ‘to defend the great truths revealed in Holy Scripture ... against the oppositions of science, falsely so called [by giving] greater force and influence to proofs and arguments which might be regarded as comparatively weak and harmless, or be little known, if put forward merely by individuals’.

The original membership of the VI (as it was always known) included many anti-evolutionists such as the marine biologist Philip Gosse (1810-1888) (author of the much ridiculed book *Omphalos*<sup>4</sup> in which he argued that God might have created the world as if it were already old), although the VI was not monolithically opposed to Darwinism.<sup>5</sup> It certainly had a significant influence on thought in the late nineteenth century, with a membership which reached 1246 in 1897; the President of the Royal Society, physicist and diode valve inventor Sir George Stokes (1885-90), was President from 1886 until his death in 1903. Intriguingly, James Clerk Maxwell, the first Cavendish Professor at Cambridge and the person responsible for the research scientist’s text (‘Great are the works of the Lord, studied by all who delight in them’, Ps 111:2) being carved in the gates of the Cavendish Laboratory<sup>6</sup> refused repeated requests to join on the grounds of its defensiveness and negativity towards science.<sup>7</sup> Whether or not this contributed to its decline, the VI’s membership and impetus certainly waned in the twentieth century, and this was not helped when Sir Ambrose Fleming (1849-1945) became President in 1927. Fleming was a distinguished electrical engineer but a biblical literalist, a firm believer in a six day creation. In 1932, an Evolution Protest Movement was launched, supported (among others) by Fleming, by Cambridge University under-librarian and CICCU stalwart, Basil Atkinson (1895-1971), and by Hugh Miller, Principal of the London School of Bible Studies; Fleming was its first President, serving from 1932 until 1941. David Bebbington comments, ‘That it existed is evidence of anti-evolutionary thinking in conservative Evangelicalism; that it remained small is evidence of the weakness of the cause, even among conservatives.’<sup>8</sup> Notwithstanding, it would be wrong to write off the VI as an anti-evolutionary organisation. It continued to stimulate thought more generally and published useful material by scientists who came to play significant roles in the RSCF.

The significant focus of debate about science and faith in the later nineteenth century was in natural theology, most enduringly recognised in

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4 Gosse, P. *Omphalos*, London: John Van Voorst (1857).

5 Rios, C.M. *After the Monkey Trial*, New York: Fordham University Press (2014), pp. 23-25.

6 Berry, R.J. ‘The research scientist’s psalm’, *Science & Christian Belief* (2008) 20 (2), 147-161.

7 McNatt, J.L. ‘James Clerk Maxwell’s refusal to join the Victoria Institute’, *Perspectives on Science and Christian Faith* (2004) 56, 204-215.

8 Bebbington, D.W. *Evangelicalism in Modern Britain*, London: Taylor & Francis (1989), p. 209.

the Gifford Lectures, endowed by the 1885 will of Adam Gifford (1820-1887), a Scottish judge, to be given in the four ancient Scottish universities for ‘Promoting, Advancing, Teaching and Diffusing the study of Natural Theology in its widest sense... in other words, the Knowledge of God, the Infinite, the All, the First and Only Cause’.<sup>9</sup> In early days, most of the lecturers were theologians or philosophers, but increasingly scientists have delivered lecture series. Gifford lecturers who have been associated with Christians in Science include Reijer Hooykaas (St Andrews, 1975-7), Donald MacKay (Glasgow, 1986), John Polkinghorne (Edinburgh, 1993-4), Sam Berry (Glasgow, 1997-8), Simon Conway Morris (Edinburgh, 2006-7), Alister McGrath (Aberdeen, 2009), Peter Harrison (Edinburgh, 2011), Denis Alexander (St Andrews, 2012), and David Livingstone (Aberdeen, 2014).<sup>10</sup>

### Indifference and Confusion

The judgement of Asa Briggs was that ‘the conflict between science and religion petered out [in the late nineteenth century], giving way to new debates about the nature, not of the Universe but of society’.<sup>11</sup> Ron Numbers quotes a search in 1880 for ‘working naturalists of repute in the United States who were not evolutionists’, which found only one. All this changed through the impact in America of Herbert Spencer’s ‘social Darwinism’ when it linked with the literalism of Bible teachers, particularly as aggressively propagated by the Seventh-Day Adventists.<sup>12</sup> Spencer’s notion of a brutal ‘struggle for existence’ led to his being lionised by industrialists but provoked fierce anti-evolutionary emotions among (especially) conservative agriculturists, sowing the seeds of a passionate ‘creationism’.<sup>13</sup> Two books (*History of the Conflict between Religion and Science* by J.W. Draper [1875] and *A History of the Warfare of Science with Theology* by Andrew White [1895]), although both subsequently rubbished by historians, discouraged rational exploration of the interface of faith and science.

These events in the religious world were compounded by the so-called ‘death of Darwinism’ in the period following the rediscovery of Mendel’s

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9 Jaki, S.L. *Lord Gifford and His Lectures*, Edinburgh: Scottish Academic Press (1986); Spurway, N. (ed.) *Humanity, Environment and God*, Oxford: Blackwell (1993); Witham, L. *The Measure of God*, San Francisco: Harper (2005).

10 Principal Knox of St Andrews claimed that an invitation to be a Gifford Lecturer was on a par with being awarded a Nobel Prize, as ‘one of the two highest honours which a scholar could receive’.

11 Briggs, A. *The Age of Improvement, 1783-1867*, New York: David McKay (1964), p. 488.

12 Numbers, R.L. *The Creationists*, New York: Alfred Knopf (1992), rev. edn. Harvard UP (2006).

13 Moore, J.R. ‘Herbert Spencer’s henchmen: the evolution of protestant liberals in late nineteenth century America’, in Durant, J.R. (ed.) *Darwinism and Divinity*, Oxford: Basil Blackwell (1985), pp. 76-100.

work in 1900, which led to a spate of speculation by theological liberals about evolution, propelled by claims of some sort of mystical *élan vital*.<sup>14</sup> This did nothing to encourage constructive faith-science debate. One of the few initiatives in Britain during the early decades of the twentieth century seems to have been a volume on *Science, Religion and Reality* put together by the Cambridge embryologist Joseph Needham, with ten contributors including former Prime Minister Arthur Balfour and W.R. Inge, Dean of St Paul's Cathedral. Needham's own chapter was largely concerned with countering the vitalism favoured by his fellow embryologist, Hans Driesch.<sup>15</sup> But this initiative was overshadowed by controversies stirred by liberal theologians and the scandal of the 'gorilla sermons' preached by Bishop (and mathematician) Ernest Barnes as he sought to reconcile human evolution with his understanding of scripture.<sup>16</sup>

The situation in North America was very different. Several states passed laws forbidding the teaching of evolution. Then in 1925, the American Civil Liberties Union engineered a test case in Dayton, Tennessee against John Scopes for breaking such a law. Although Scopes was found guilty, so much opprobrium was piled upon his prosecutors that creationist advocates effectively retreated from public scrutiny for around a quarter of a century.<sup>17</sup>

In Britain, evangelical concern in the early twentieth century was that biblical truths were being diluted by attempts to be theologically inclusive. 'Conservative Christians were regarded as anti-intellectual, anti-theological and obscurantist, clinging tenaciously to outmoded beliefs, simply because they were afraid to face the facts.'<sup>18</sup> On the other hand, they were admired for their spiritual devotion and evangelistic zeal. Following an initiative of the Cambridge Inter-Collegiate Christian Union (CICCU) in 1919, a series of gatherings of university Christian Unions were held annually, culminating in the formation in 1928 of a national Inter-Varsity Fellowship of Evangelical Unions (IVF), with Douglas Johnson (1904-1991) (who had acted as secretary to the annual conferences) as General Secretary.<sup>19</sup> Johnson has written,

From its earliest days the IVF organized the occasional meeting or conference address [on] the problems resulting from scientific progress. But for most science students help was chiefly in the form of individual

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14 Kellogg, V.L. *Darwinism Today*, London: George Bell (1908); Bowler, P.J. *Reconciling Science and Religion*, Chicago: Chicago University Press (2001).

15 Needham, J. (ed.) *Science, Religion and Reality*, London: Sheldon Press (1925).

16 Barnes, E.W. *Scientific Theory and Religion*, Cambridge: Cambridge University Press (1933); Bowler, P.J. *Monkey Trials and Gorilla Sermons*, Cambridge MA: Harvard University Press (2007).

17 Larson, E.J. *Summer for the Gods*, Cambridge MA: Harvard University Press (1997).

18 Barclay, O.R. *Whatever Happened to the Jesus Lane Lot?*, Leicester: IVP (1977), p.95.

19 Johnson, D. *Contending for the Faith*, Leicester: IVP (1979).

advice and a few publications. Some help was at first given by Sir Ambrose Fleming, Professor of Electrical Engineering at University College London. But the approach of the senior members of the college staffs mostly followed the lines of the older apologetics of the early part of the twentieth century.<sup>20</sup>

One of the first priorities of the newly formed IVF was the production of literature for evangelical students. Among the early productions of the Inter-Varsity Press (the publishing arm of the IVF) in the early 1930s were seven small booklets for students, five of them written by scientists (Three by Ambrose Fleming – *The Foundations of the Christian Faith*, *The Christian Faith in Relation to Modern Thought*, and *The Veracity of Holy Scriptures*; and two by an eminent surgeon, Albert Carless (1863-1936) – *The New Birth* and *The Body and Its Lessons*). An influential book which first appeared in 1942 and went through several editions was *Modern Discovery and the Bible* by another surgeon, Arthur Rendle Short (1880-1953), who was a frequent speaker to student Christian Unions. Rendle Short was somewhat equivocal about Darwinism, and changed his understanding through different editions. However Robert Clark (1906-1984), another IVP author and early RSCF member, was an avowed anti-evolutionist.<sup>21</sup>

In 1940, the IVF launched a Graduates' Fellowship (GF), to unite former Christian Union members in prayer and financial support for their Christian Union, and to stimulate them to active Christian witness at their places of work and with their neighbours. The GF spawned a number of professional groups, for teachers, doctors, and others. One of the first to be formed was the Research Scientists' Christian Fellowship,<sup>22</sup> initiated at Douglas Johnson's suggestion by Oliver Barclay (1919-2013), and led by Barclay until and beyond his formal retirement.

Barclay was born in Japan, the son of CMS missionaries. He went up to Trinity College, Cambridge in 1938 to read zoology but with a longer term aim of teaching in a university overseas, probably in China. He entered Cambridge as a Christian and was a powerful influence in student Christian circles – as CICCUC President for two years and then Chairman of the

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20 Johnson *op. cit.*, (19), p. 290.

21 Clark, R.E.D. *Creation*, London: Tyndale Press (1946); Numbers *op. cit.*, (12), pp. 154-157. In a review of a revised edition of *Creation (Darwin, Before and After*, Paternoster (1948)), Charles Raven wrote that Clark 'nowhere seems to realize that creation, if the "ever-working God" and not "a master-magician" is the Creator, must be a process and not an act, and that the study of evolution is the study of that process' (*Nature* (1949) 163, 509-510).

22 The name was only formally adopted in 1950. The group began running courses for university and senior school students in biology, then in physics, chemistry and geology, and it became necessary to make its affairs more formal. The courses were passed on to the Inter-Schools Christian Fellowship of the Scripture Union, although RSCF members continued to teach on them. The RSCF changed its name to Christians in Science (CiS) in 1988, recognising that many of its members and those it wanted to reach were not properly described as 'research scientists'. In this paper we use RSCF for events prior to 1988.

IVF Student Executive.<sup>23</sup> He graduated in 1942 and went on to do a PhD under the supervision of the Professor of Zoology, Sir James Grey. Douglas Johnson records that Oliver remained in Cambridge for postgraduate work because he was 'engaged in research of national importance'; Barclay himself described 'the main focus of my research was the mechanics of animal movement and human walking. This was partly motivated by the fact that a better understanding of these movements would allow the development of more effective artificial limbs.'

The young postgraduate seems to have had a culture shock in passing from the self-disciplining life of an undergraduate (even one in the middle of a World War) to the constraints of scientific research. Writing about the IVF's recognition of spiritual needs of such people, Douglas Johnson records,

Some of the loneliest people in the world proved to be some of the new science postgraduates. Before graduation they had enjoyed the comradeship of undergraduate life, only suddenly to find themselves as isolated back-room boys in a research department. There they struggled depressingly with the beginnings of a thesis and the task of setting up the appropriate apparatus. Their first need was for suitable Christian fellowship. Then the new graduate had an urgent need to arrive at a coherent 'world-view'. It was here that senior Christian colleagues 'who had been that way before' could be of such crucial value in friendship and advice.<sup>24</sup>

In 1943, Barclay brought together in Cambridge a number of Christians involved in scientific research as a 'Scientist's Study Group'. Then in 1944 and again in 1945, he organised a 'Scientific Research Workers' Conference'. The 1944 meeting included eight papers from five authors. One of the papers was 'The relation between scientific and religious knowledge', another was on 'Reductionism'. Others ranged from the scientific method to the relationship between scientific and religious methodologies to teleology and determinism. The only senior member present was George Steward (1896-1989), a Cambridge graduate who became Professor of Mathematics at Hull University in 1930 (and who gave two papers);<sup>25</sup> others present included Gordon Barnes, who became a Senior Lecturer in Zoology at Chelsea College; Robert Clark, later a Lecturer at Cambridge Polytechnic (now Anglia Ruskin University); and R.J.C. Harris, future Director of the M.R.C. Microbiological Research Unit and RSCF Chairman until 1954. This 1944 meeting can be taken as the effective beginning of the Fellowship. A sixteen page report was produced, with summaries of the

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23 Berry, R.J. 'Obituary: Oliver Barclay (1919-2013)', *Science & Christian Belief* (2014) 26 (1), 83-88.

24 Johnson *op. cit.*, (19), p. 290.

25 Russell, C.A. 'Professor George Coton Steward', *Science & Christian Belief* (1990) 2, 2.

papers and a suggested reading list, intended to inform interested parties of the current ideas informing general attitudes. Besides books by scientists (Eddington, Bernal, Waddington, Huxley), Barclay included relevant theological works, which highlighted the lack of evangelical scholars in the science-faith area. A book which Barclay himself had found helpful and which he frequently recommended was *Christ and the World of Thought*,<sup>26</sup> by an Edinburgh theologian, Daniel Lamont (1870-1950). The participants at this early meeting did not lack ambition. They declared that they 'wanted to change the whole climate of thought about science and faith'.

Oliver Barclay planned to go abroad to teach, but Douglas Johnson persuaded him to postpone this intention for a year or so to help the young IVF re-establish itself at the end of the Second World War. So, after a year as a demonstrator in Cambridge, Barclay moved to London – and remained with IVF (renamed the Universities and Colleges Christian Fellowship, UCCF, in 1975) for his whole working life, in due course succeeding Johnson as General Secretary of UCCF. One of Johnson's first tasks for Barclay was to build a Research Scientists' Christian Fellowship on the basis of the pioneering 'Scientific Workers' Conference'.

Members of the RSCF in its early days were few. The organisation was run by a small committee with Oliver Barclay as secretary, a role he occupied until his formal retirement in 1987.<sup>27</sup> Its activities were largely quarterly evening meetings, often to discuss a book (*Miracles* by C.S. Lewis was one such), plus an annual conference. From 1944 to 1948, Robert Clark compiled a newsletter which carried summaries of RSCF papers and book reviews. When this was discontinued, RSCF material was included in the quarterly *Christian Graduate*, distributed to all Graduates' Fellowship members. In 1951, the Committee circulated a statement affirming its relationship with IVF and setting out three aims:

1. to clarify our own thinking on problems of science and faith and to develop as far as possible a consistent Christian view on these matters;
2. to pass on to other Christians such fruits of our own activities as may help them in their own thinking and in their witness; and
3. to use such material to further witness amongst people of scientific training and generally help to evangelise the 'scientific' world.

Members were required to belong to the Graduates' Fellowship and to be actively involved in scientific research.

Barclay gathered together a group of young scientists who became the driving force for the young RSCF. It included physicist Roland Dobbs

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<sup>26</sup> Lamont, D. *Christ and the World of Thought*, London: T&T Clark (1935).

<sup>27</sup> Rios *op. cit.*, (5), p.76.

from University College London, botanist Douglas Spanner (1920-2009) and physicist Robert Boyd (1922-2004) from Imperial College, and somewhat later psychologist Malcolm Jeeves from Cambridge. Then in 1948 two particularly significant recruits joined. The first was Donald MacKay (1922-1987) of King's College London, enlisted by Dobbs who had worked on radar with him in the war. Barclay wrote that until MacKay appeared,

much evangelical apologetics had unwisely accepted what was really a deistic view of nature... Miracles were seen as breaches of natural law or scientifically impossible. In relation to nature this reduced God to the 'God of the gaps'. Unfortunately, C.S. Lewis, in his weakest but influential book *Miracles*, seemed to reinforce such a position.<sup>28</sup> MacKay helped people to a more biblical view of God as Creator and 'Upholder of all things', which had largely been lost sight of in Conservative Evangelical circles.<sup>29</sup>

Sometime after MacKay's death from leukaemia at the age of 65, Barclay commented to MacKay's widow, 'before Donald joined the group we spent our time thinking about Joshua's long day or the geographical extent of Noah's flood. Donald got us to think about God's ongoing upholding as taught in Colossians and Hebrews.' There is no doubt that 'no evangelical in the post world war II period has influenced the discussion of science and Christianity in the English speaking world as this spare Scotsman from Lybster, Scotland'.<sup>30</sup> MacKay's writings remain very influential. He first set out his thinking in a small book *Science and Christian Faith Today*, published by the Church Pastoral Aid Society in 1960; perhaps his most helpful and accessible book is *The Clockwork Image*, published by IVP in 1974 and reprinted as a 'Christian Classic' in 1997.<sup>31</sup>

The second newcomer in 1948 was Reijer Hooykaas (1906-1994) of the Free University of Amsterdam, introduced by Martyn Lloyd-Jones (1899-1981) who had met him at a theological conference in Holland. Lloyd-Jones urged Douglas Johnson to fit him into an imminent RSCF Conference. MacKay and Hooykaas quickly became close friends. Hooykaas was a Dutch Calvinist and probably had faith commitments which resonated with the Scottish Free Church background of Donald MacKay.

Hooykaas was originally a chemist, but was increasingly attracted to the history of science, particularly to the seventeenth century chemist Robert Boyle. He firmly believed that a proper view of divine action in creation need not distinguish between the laws of nature and the work of

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28 Judge, S. 'How not to think about miracles', *Science & Christian Belief* (1991) 3, 97-103.

29 Barclay, O.R. *Evangelicalism in Britain 1935-1995*, Leicester: IVP (1997), p. 67.

30 Haas, J.W. 'Donald MacCrimmon MacKay (1922-1987): a view from the other side of the Atlantic', *Perspectives on Science and Christian Faith* (1992) 44, 55-61.

31 See also a collection of articles by MacKay compiled by Melvin Tinker *The Open Mind*, Leicester: IVP (1988).

God. This meant that any idea of a ‘God-of-the-gaps’ must be completely unscriptural: ‘God’s activity is behind everything, however unimportant it may seem.’<sup>32</sup> He was resolutely biblical, but hated overconfidence and was suspicious of over-systematisation. His desire to be free from mere tradition and willing to be surprised by truth often put him at odds with his more conservative colleagues. A key concept for him was intellectual freedom. He argued that the freedom for science investigation was implied in the biblical concept of liberty.<sup>33</sup> Barclay wrote of his influence on the RSCF that:

1. he helped the organization to have confidence in the apologetic task;
2. he insisted on the need to be humble before data, accepting that scientific discovery and biblical revelation can both refute rational expectation;
3. he was concerned that as Christians become more respectable intellectually, they are in danger of an ‘idolatry of their minds’;
4. he emphasized there is a proper ‘learned ignorance’, and also a dangerous ‘ignorant learning’.<sup>34</sup>

A book by Hooykaas, *Religion and the Rise of Modern Science* was used for many years as an Open University textbook.<sup>35</sup>

During the same period, Donald MacKay was also influenced by Charles Coulson (1910-1974), his Head of Department at King’s London, although soon to move to Oxford as Rouse Ball Professor of Mathematics. Coulson was a leading Methodist and probably the best known scientist in Britain at that time advocating reconciliation between Christianity and science.<sup>36</sup> He wrote widely on the subject, probably his best known book being *Science and Christian Belief*,<sup>37</sup> which is widely credited with popularising the foolishness of the ‘God in the Gaps’ argument. Coulson was never a member of RSCF, suspicious of its literalist interpretations of the Bible, as he saw it.<sup>38</sup> Coulson argued for the importance of the concept of complementarity, stemming from the work of Niels Bohr, and how this could potentially

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32 Hooykaas, R. *The Principle of Uniformity in Geology, Biology and Theology*, Leiden: Brill (1967), pp.192-193.

33 Hooykaas, R. *Philosophia Libera. Christian Faith and the Freedom of Science*, London: Tyndale Press (1957), [published on behalf of RSCF]. A complementary essay, *The Christian Approach in Teaching Science*, London: Tyndale Press (1960) was reprinted in *Science & Christian Belief* (1994) 6, 113-128.

34 Barclay, O.R. ‘Obituary: Professor Reijer Hooykaas’, *Science & Christian Belief* (1994) 6, 29-32.

35 Hooykaas, R. *Religion and the Rise of Modern Science*, Edinburgh: Scottish Academic Press (1972).

36 Leegwater, A. ‘Charles Alfred Coulson (1910-74)’, in Rupke, N.A. (ed.) *Eminent Lives in Twentieth-Century Science & Religion*: Frankfurt: Peter Lang (2007), pp. 47-77.

37 Coulson, C. *Science and Christian Belief*, Oxford: Oxford University Press (1955).

38 Rios *op. cit.*, (5), p. 88.

be helpful in understanding the relation between science and faith.

Historian Peter Bowler credits Coulson's 1955 book *Science and Christian Belief* with giving new impetus to the science and faith debate, including the first significant discussion of complementarity within evangelicalism. This application of the complementarity concept was taken up and made widely known through the work of Donald MacKay. Christopher Rios summed up Donald MacKay's espousal of complementarity:

His message was simple and consistent: scientists looked at the world as a self-contained, closed physical system and attempted to understand it on its own terms. Christians looked at the world as an open system with more processes and events occurring than meet the scientific eye. Only when one accepted the validity of both perspectives could one avoid the potential conflict between them.... Yet there was more to complementarity than merely distinguishing between the Christian and scientific views of the world. If applied correctly, it also prevented one from wrongly combining their descriptions and of unnecessarily claiming conflict between them. As psychologist Malcolm Jeeves described it, 'The somewhat negative point which arises from all of this is that before religious and scientific statements are debated as rivals, it is obligatory that we should establish that they are not in fact complementary.'<sup>39</sup>

Many of the confusions from using the terms 'complementarity' and 'complementary' are unnecessary once it is recognised that explanations of the *acts* of an agent (God) are logically compatible with scientific explanations of the *mechanisms* by which those acts were achieved.

In 1951, responding to an invitation from the BBC, initiated, we believe, by Donald MacKay, a small group met over a period of months to plan a series of talks on science and faith to be given in the overseas service of the BBC. The result was *Where Science and Faith Meet*, with five contributors selected to maximise the breadth and impact of the material covered: James Torrance, 'The Nature of the Problem'; Donald MacKay, 'Looking for Connections'; Malcolm Jeeves, 'Wishful Unthinking'; Robert Boyd, 'The Universe Around Us'; with a 'Synthesis' from Oliver Barclay. In some ways this series and the mix of its participants, characterised the flavour of the activities and concerns of the Research Scientists Christian Fellowship at this time. Four of the five were young early career academics and/or science researchers. The fifth was a theologian, James Torrance, a research student at Oxford, later to become Professor of Theology at Aberdeen. He had been assistant minister to Martyn Lloyd Jones at Westminster Chapel in London.

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39 Rios, C. 'Claiming complementarity: twentieth-century evangelical applications of an idea', *Perspectives on Science and Christian Faith* (2011) 63, 75-84.

Another early initiative was a lecture given under RSCF auspices at the annual meeting of the British Association for the Advancement of Science. The first one was in Edinburgh, in 1951, given by Charles Coulson on 'The place of science in the Christian faith', the second in Belfast in 1952 by Cambridge biochemist Malcolm Dixon on 'Science and irreligion'. Such lectures continued every year until the mid 1960s when the then Secretary of the British Association refused to advertise them in the official programme.<sup>40</sup>

## Interpreting the Bible

A significant theological challenge to the RSCF emerged a few years later. The 1956 Conference was on "And behold it was very good." The problem of pain, suffering and evil'. Some of the material was published two years later in the *Christian Graduate*, where it obviously reached a far wider audience than those who attended the conference. It produced a strong objection from the conservative theologian, James Packer on the grounds that 'scientific interpretations were being placed on biblically revealed fact'.<sup>41</sup> The RSCF responded with a firm avowal of their attitude to biblical interpretation:

- Scripture can never be interpreted in a vacuum: human analogy, experience, common sense and observation are needed to understand it;
- Sometimes extra-biblical knowledge is a key to proper understanding – such as Canaanite culture or the age of the Earth;
- When the Bible makes claims that are open to observation, we have a responsibility to seek out relevant facts;
- The Bible does not teach science; and
- Scientists and theologians should work together wherever appropriate.<sup>42</sup>

Donald MacKay summarised this spat in a way which has not changed over the decades,

What may seem the 'obvious' way to interpret biblical material is not always the most reverent; true reverence for the Bible requires a positive effort to avoid misinterpreting it. ... It has never been doubted by orthodox Christians that the same God was the author of true discov-

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40 The 1961, 1962 & 1963 lectures (given respectively by David Ingram [subsequently Vice-Chancellor of the University of Kent Canterbury], Frank Rhodes and Robert Boyd) were published, together with an essay by Donald MacKay given at a VI Symposium, as *Christianity in a Mechanistic Universe* (IVP, 1965). The 1959 lecture in York (*Contemporary Psychology and Christian Belief and Experience*, Tyndale, 1960) and the 1965 one in Cambridge (*Scientific Psychology and Christian Belief*, IVP, 1967) were given by Malcolm Jeeves.

41 *Christian Graduate* 11, 112-113.

42 Rios *op. cit.*, (5), pp. 93-103.

eries in the Book of Nature as well as in the Book of Scripture. But instead of arguing that this rendered scientific enquiry superfluous on matters dealt with in Scripture, Christians today are more alive to the dangers of trying to use Scripture for purposes which it was not intended to serve.<sup>43</sup>

Fifty years later, the RSCF was involved in another disagreement, in some ways an extension, or perhaps even an echo of the first. In 1991, *Darwin on Trial*, a book by Phillip Johnson, an American lawyer, was published. Barclay gave it a lukewarm review.<sup>44</sup> Then in 1997 Johnson visited Britain to promote his second book (*Testing Darwinism*) which was due to be published by IVP. He came over as polemical, divisive, anti-science and selective in his use of sources. In attempting to distance himself from the stridency of Richard Dawkins, he launched into a comprehensive assault on 'naturalism', without distinguishing between methodological naturalism, which is proper and necessary in science, and its metaphysical or doctrinaire cousin, which is almost inevitably atheistic. Colin Russell, President of CiS at the time, argued that publication of the book by IVP would

do immense damage to the cause of Christ ... by being associated with a position as anti-science and theologically dubious as Johnson's.... [T]his would help to undo the good that has been done by CiS and its predecessor RSCF. Appalled by the pastoral harm done by ignorant attacks on evolution, usually in the name of religion, we have been able to divert many younger people from irrelevant and strident controversy into positive thinking about the greatness of God in nature and their consequent responsibilities.<sup>45</sup>

It is unknown how seriously Russell's points were taken. Sadly the views of Johnson and his disciples have taken root and achieved an unhappy degree of acceptance (see below). Barclay's last publication, based on an address at a joint CiS-ASA Conference in 1989, was a biblical and eirenic rebuttal of Johnson's position.<sup>46</sup> It is unfortunate that a number of subsequent IVP publications have shown a failure to incorporate the outcome of CiS thinking.<sup>47</sup>

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43 MacKay, D.M. *Science and Christian Faith Today*, London: Church Pastoral Aid Society (1960), p.6.

44 Barclay, O.R. 'Review: Phillip E. Johnson *Darwin on Trial*', *Science & Christian Belief* (1993) 5, 70-71.

45 Colin Russell, unpublished letter to R.M. Horn, 30 October 1997.

46 Barclay, O.R. 'Design in nature', *Science & Christian Belief* (2006) 18, 49-61.

47 In 2005 UCCF gave IVF 'organizational independence', albeit retaining strong links with its parent body.

## The 1965 Oxford conference – a significant and formative event

An event in 1965 was particularly significant in the long term, not only for the RSCF, but also for the continuing development of science-faith dialogue as a whole:

In July 1965 thirty-six men from ten countries gathered for a conference in Oxford, England to discuss the most important scientific issues facing Christianity. The participants were mostly professional scientists – biologists, psychologists, geneticists, brain scientists – with a few theologians and biblical scholars present to lend support and expertise.<sup>48</sup>

The initiative for the meeting came from a Canadian, Norman Lea, a Harvard educated engineer and successful businessman. He hoped that the event would lead to a fruitful exchange of ideas among leading evangelical scientists from different parts of the world. He was a member of the American Scientific Affiliation<sup>49</sup> but must have had some contact with the RSCF because he was obviously impressed with its approach, whilst being deeply concerned about the ongoing infighting over evolution that preoccupied the ASA at that time. He contacted Barclay in 1964, and offered to pay the costs of a conference. Barclay convened a group to plan this consisting of himself, Donald MacKay, Robert Boyd, Malcolm Jeeves and ASA member biochemist Walter Hearn. Lea's ambition was fulfilled in that the conference proved to be a landmark in the experience of the ASA members who attended, as well as ASA members with whom they were in touch on their return from Oxford.

It was agreed that the RSCF Chairman, mathematician Alan Weir would host the meeting, that Donald MacKay would serve as its chairman and Oliver Barclay act as its secretary. Barclay's role was crucial: it meant that he was able to guide the direction of the conference, not least through the pre-conference reading list that he distributed to ensure that those coming to the meeting were as fully prepared as possible.<sup>50</sup> Most of the books listed by Barclay were by UK authors; the only work by anyone linked to ASA was Bernard Ramm's influential *Christian View of Science and Scripture*.<sup>51</sup> The absence of American publications perhaps gives a clue to how the RSCF viewed the ASA's primary preoccupation at the time – as focused almost exclusively on infighting over evolution. Barclay thought

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48 Rios *op. cit.* (5), p.1. The participants and their affiliations are listed in Jeeves, M.A. *The Scientific Enterprise and Christian Faith*, London: Tyndale (1969), pp.162-165. They were indeed all men.

49 The American Scientific Affiliation (ASA) is the North American equivalent of CiS, founded in 1941.

50 The list is given in Rios *op. cit.*, (5), p. 126.

51 Ramm, B. *The Christian View of Science and Scripture*, Grand Rapids: Eerdmans (1954). The founding text of modern 'Young Earth Creationism', *The Genesis Flood* by John Whitcomb & Henry Morris (Presbyterian & Reformed, 1961) was produced as an attempted rebuttal to Ramm's book.

that to go down this road would distract from the wider and deeper issues which he was anxious to see discussed at the conference.

There were thirteen participants from the UK, most of whom will be familiar to CiS members.<sup>52</sup> The American participants were far from typical of the ASA membership. With perhaps two exceptions, all had positions at secular universities, although more than three quarters of ASA members at the time worked in Christian colleges. To be a member of staff at most such institutions required signing a basis of belief, which could produce tensions for some of the scientists, particularly any concerned about evolution issues. Intriguingly, the Americans present included many who went on to shape the future of ASA in the following decades, particularly physicist Dick Bube from Stanford, biochemist Walter Hearn from Iowa State and geneticist Elving Anderson from the University of Minnesota. Others, who went on to leadership positions outside science were theologian Clark Pinnock and sociologist David Moberg. Of the seven from continental Europe, only Hooykaas was known to those from the UK. There were two participants from South America and a single representative from Japan.

Barclay was clear what he hoped the conference would achieve. He wanted it to 'set out a positive Christian view of science and to help forward the enunciation and dissemination of a Christian philosophy of science true to the Bible and historic Christianity'. He wrote in the invitation letter, 'We must aim to change the whole climate of thought in our countries.'

The record of the conference is in *The Scientific Enterprise and Christian Faith* which one of us (MAJ) was asked to write, based on the pre-circulated papers produced by the participants and on the discussions that took place.<sup>53</sup> The overall aim was very simple: 'to set down, with supporting arguments, why we believe that science is a true friend of biblical faith and not, as is often assumed, in conflict with it.' The discussions of the conference are reflected in the chapter divisions of the book:

1. Hebrew-Christian and Greek influences on the rise of modern science
2. God, creation and the laws of nature
3. The scientific enterprise
4. Explanations, models, images and reality in science and religion
5. Cosmology, evolution and the origin of life
6. Psychology, sociology and cybernetics
7. Retrospect and prospect

The opening chapter, strongly influenced by Hooykaas, reviewed the

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52 The UK participants were Oliver Barclay, David Booth, Robert Boyd, Roland Dobbs, Paul Helm, John Houghton, Malcolm Jeeves, Donald MacKay, John Polkinghorne, Frank Rhodes, Stewart Sutherland, Alan Weir, John White. It seems likely that the continental Europeans invited came through Hooykaas's contacts.

53 Jeeves, M.A. *The Scientific Enterprise and Christian Faith*, London: Tyndale (1969).

rise of modern science. It was followed by chapters on the characteristics of the laws of nature and of miracles; on the scientific enterprise itself (including a discussion of the nature of the knowledge to which it gave rise); how explanations and models are used in both science and religion; then topics arising out of the challenges of specific disciplines, including cosmology, evolution (and the origin of life), psychology, sociology and cybernetics – culminating in freedom of choice and Heisenberg indeterminacy which had been an extended conference session led by Donald MacKay.

The first half of the book was devoted to developing a biblical view of the relation of God to his creation and how this enables a proper evaluation of science and science-derived knowledge. The second half was an exposition of some of the key concepts in modern science and their relation to Christian beliefs. There was a deliberate attempt to avoid devoting the whole meeting to discussing evolution. Frank Rhodes, at the time Professor of Geology at Swansea but soon to become President of Cornell University (where he remained for the rest of his distinguished career) was particularly helpful with this. He had already written a popular book on geology and was well practised at presenting complex issues in ways that a non-specialist could understand.<sup>54</sup> He also was anxious to avoid any suggestion of the God-of-the-gaps delusion which had figured, for example, in the nineteenth century debate between Lyell and Whewell.

Some themes and guidelines emerged and remain relevant to working scientists:

- When building thought models of the relation of God to his creation we must be alert to the ever-present dangers of overemphasising either God's separation from that which he has created or his immanence within it. Both lead to a distortion of the truth.
- When we compare thought models used in science with those in religion, we learn an important lesson. The scientist who makes extensive use of thought models is fully aware that such models must not be identified with the reality they seek to explain.
- There is an ever present temptation to embrace a 'God-of-the-gaps':  
When at times some Christian apologists have sought to fit God in the gaps of contemporary scientific knowledge, they have implicitly proposed a model of God's relation to nature which has ignored his moment-by-moment upholding power. Such a God-of-the-gaps model seems in danger of reappearing, no doubt in modern guise, as Christians seek to integrate the knowledge derived from the behavioural sciences with the pictures of man portrayed in the Bible.<sup>55</sup>

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<sup>54</sup> Rhodes, F.H.T. *The Evolution of Life*, Harmondsworth: Penguin (1963).

<sup>55</sup> Jeeves *op. cit.*, (53), p.156.

- The scientist who is a Christian and who knows that he [*sic*] is investigating his Father's world will do so with the freedom which he recognizes as a priceless treasure of the Christian gospel.... But this open-mindedness must not be confused with empty-mindedness. It will be an open-mindedness combined with firm convictions, in contrast to a mere empty-mindedness characterised by an unreadiness to affirm anything. The freedom of such a truly open mind must moreover be a freedom at times ready and prepared to say simply, 'I do not know', especially in those instances where it is clear that, at least for the moment, there is no further duty to search for relevant data.<sup>56</sup>
- This assessment of the scientific enterprise should lead to a commitment which calls upon us not to neglect our talents, nor to pretend that we have no different talents than others who are in different walks of life. To do that would be to turn our back on the God who has given us particular talents, and who, according to the teaching of Christ, will hold us solemnly responsible and accountable for the profitable use that we have made of them.<sup>57</sup>
- Finally, there is an overarching biblical call to manifest the spirit which should permeate all of our endeavours, stamped with the hallmark of love. Love, not merely in the sense of general goodwill, but in the fuller sense of worship of the Creator and respect for His works. There must be no worship of the works, for that would be idolatry.... Such love should be strong and adventurous; it should be infectious and temper every judgement that we make in our intellectual endeavours.<sup>58</sup>

A pervasive topic throughout the week was the relevance and importance of complementarity. The concept was introduced by Donald MacKay and discussed in full conference sessions as well as in a small group of physicists and mathematicians; it was repeatedly returned to by other contributors. MacKay's views were discussed in depth, especially his reliance upon physical indeterminacy in applying Heisenberg indeterminacy to discussions of the logical indeterminacy of free choice.<sup>59</sup> On balance MacKay's views prevailed.

There is no doubt whatsoever that there was an enduring advantage in bringing together like-minded people from different parts of the world for

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56 Jeeves *op. cit.*, (53), p.160.

57 Jeeves *op. cit.*, (53), p.161.

58 Jeeves *op. cit.*, (53), p.161.

59 The essence of this debate was rehearsed at the 1994 CiS Conference, and published as Doye, J., Goldy, J., Line, C., Lloyd, S., Shellard, P. & Tricker, D. 'Contemporary perspectives on chance, providence and free will', *Science & Christian Belief* (1995) 7, 117-139.

a whole week of sustained interaction. It is very easy to forget how much each of us is embedded in our own cultural habits. They are so familiar to us that we may be largely unaware of them, unless they are challenged by our brethren from other traditions.<sup>60</sup>

### Evolution and creation

Most CiS members probably accept the standard scientific consensus on evolution. The organisation has never demanded any commitment of its members on the subject; certainly there has always been a range of understandings among them. Barclay's own position is probably typical of many:

I wrestled with evolution early on. The conclusion I came to was that if evolution was a scientific process, then there was no problem. If it is a philosophy however, that is a big problem, and since it is often used as a stick to beat Christians with, that basic 'naturalism' has to be confronted. The question of biblical interpretation is usually in the background.

Evolution has never been as divisive in Britain as in some other parts of the world but it remains and recurs as a pastoral issue for (particularly) young people who see a conflict between the Bible and scientific understanding, compounded by the stridency of 'creationists' on one hand and the 'neo-atheists' on the other.

An effort in 1983 to clarify the debate resulted in frustration for all concerned. Prompted by the Secretary of the Evangelical Alliance, an attempt was made to identify specific points of agreement and difference between the RSCF and the anti-evolutionists of the Biblical Creation Society. Representatives of both groups prepared statements and questions for the other. However when they met, the discussion became bogged down in a discussion of how the creation could be said to be completed if God was still active in it. Those concerned agreed to put further questions to the other side and meet again. The RSCF posed its questions but did not receive answers; reconciliation never took place.<sup>61</sup>

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60 It was instructive how important and potentially divisive 'Christian evangelical group' cultural practices can be. MAJ recalls that no sooner had the opening prayer finished than a number of the Dutch participants lit large cigars. The expressions on the faces of some of the American brethren were a sight to behold – ranging from shock and surprise to disbelief and deep puzzlement. You could almost see them asking, 'Surely these cannot be real evangelical Christians?' A similar sense of shock emerged one evening in a local hotel. Having ordered food, a natural question was 'Which wine shall we drink with it?' Once again horror flashed over the faces of some of our American colleagues, most evident in those from Christian colleges where they had been required to sign a basis of belief which totally banned alcohol. Such reactions are, of course, in some sense trivial, but they remind us of the hidden and potentially dangerous barriers that can come from undisclosed cultural backgrounds.

61 Carling, R.C.J. 'Why I changed my mind about evolution', in Berry, R.J. (ed.) *Christians and Evolution*: Oxford: Monarch (2014), pp. 276-292, p.291.

Perhaps more insidious is the suspicion – desire might be a better word – that God must somehow have directly manipulated parts of the evolutionary process, that some structures or processes are ‘irreducibly complex’ requiring an ‘intelligent designer’ for them to occur. This notion is widespread, but it is a God-of-the-gaps argument and has repeatedly been exposed as such.<sup>62</sup>

### Proclamation and publication

The book resulting from the Oxford Conference appeared in 1969 and was widely read, particularly in North America.<sup>63</sup> Rios notes that, although the conference itself ‘came and went with little fanfare and received virtually no attention from outsiders, it signalled a reawakening within evangelicalism. In contrast to the anti-evolutionary fervour of the day [Rios was writing from a North American perspective], the event represented those who sought to reclaim peace between orthodox faith and orthodox science.’<sup>64</sup> For those who had been present and others they influenced through meetings and talks in churches and schools, the need and confidence to counter anti-theistic materialism – or physicalism, as it is more often called in twentieth-century philosophy – grew and matured. There is no way of measuring its continuing impact. In the UK, Barclay’s links to colleges throughout the country were an extremely important element, particularly in encouraging local groups to meet and prepare papers for the Annual Conferences. Barclay insisted that the material for such conferences should be pre-circulated in full, so that the Conferences themselves could be spent in discussion rather than in listening to talks.. Rios comments that this practice ‘encouraged a level of dialogue rarely achieved by the ASA’.<sup>65</sup>

When one of us (RJB) was a new graduate, Barclay told him that he regarded the major function of RSCF was to discipline scientists to read and write Christianly. He was undoubtedly successful in this aim. There has been an increasing number of substantial publications from RSCF members or those closely associated with them. Mention has already been made of the influential books by Bernard Ramm and Charles Coulson,

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62 Statement by the International Society for Science and Religion (<http://www.issr.org.uk/issr-statements/the-concept-of-intelligent-design/>, accessed 10 December 2104); Alexander, D.R. ‘After Darwin: is Intelligent Design intelligent?’, in Northcott, M.S. & Berry, R.J. (eds.) *Theology After Darwin*, Milton Keynes: Paternoster (2009), pp. 22-40.

63 A revised edition of *The Scientific Enterprise and Christian Faith* was produced by the two of us (MAJ & RJB) in 1998 as *Science, Life and Christian Belief* (Apollos). It involved a conservative revision of the earlier chapters of the original book, with new sections on genetics, psychology, neurobiology, embryology and environment.

64 Rios *op. cit.*, (5), p.2.

65 Rios *op. cit.*, (5), p.184.

and the publications of Hooykaas and MacKay.<sup>66</sup> Another early publication (in 1960) was a small book *Questions of Science and Faith* produced by biochemist John Hawthorne; it was evidently well received because it was reprinted (as an IVP 'Way-in' book) in 1972 and again in 1986.<sup>67</sup> More substantial (at least in length) was a 1966 book *Issues in Science and Religion*<sup>68</sup> by Ian Barbour, a North American scholar, which served as a source text for a number of years on both sides of the Atlantic. In Britain the following year, Derek Kidner's commentary on *Genesis* in the Tyndale Old Testament series forced people to look more closely at the Genesis text. Hard on its heels in 1969 came the Oxford Conference book and also, prompted by the RSCF Committee, a critique of Teilhard de Chardin by Gareth Jones.<sup>69</sup> The 1970s saw the beginning of a publication flood. Barclay led the way with two books which, while not strictly science-faith, were pertinent to its debates.<sup>70</sup> These were followed in 1971 by Hooykaas's *Religion and the Rise of Modern Science*.<sup>71</sup> Then in 1972 Denis Alexander produced *Beyond Science*,<sup>72</sup> Donald MacKay *The Clockwork Image* in 1974, Sam Berry *Adam and the Ape*<sup>73</sup> in 1975, Malcolm Jeeves *Psychology and Christianity*<sup>74</sup> in 1976 and Denis Osborne, later UK High Commissioner in Malawi, *Way Out: Some Parables of Science and Faith*<sup>75</sup> in 1977. Gareth Jones's 1980 book *Our Fragile Brains*<sup>76</sup> was strongly influenced by debates within RSCF.

This is not the place to give a full bibliography of books by RSCF members, but mention should be made of Colin Russell's collection of papers on science and religious belief for the Open University, followed by his ground-breaking history *Cross-Currents*,<sup>77</sup> and a debate between pro- and anti-evolutionists in a series on 'When Christians Disagree' instigated by Barclay.<sup>78</sup> John Polkinghorne, who had resigned from his Cambridge Chair in Mathematical Physics in 1979 in order to seek ordination as an Anglican

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66 Hooykaas *op. cit.*, (33) and MacKay *op. cit.*, (43).

67 Hawthorne, J.N. *Questions of Science and Faith*, London: Tyndale (1960).

68 Barbour, I.G. *Issues in Science and Religion*, Englewood Cliffs NJ: Prentice-Hall (1966).

69 Jones, D.G. *Teilhard de Chardin: an Analysis and Assessment*, London: Tyndale (1969).

70 Triton, A.N. *Whose World?*, Leicester: IVP (1970) and Barclay, O.R. *Reasons for Faith*, Leicester: IVP (1974). The former was published under the pseudonym 'A.N. Triton' which Barclay used lest he be thought to be expressing an official UCCF position.

71 Hooykaas *op. cit.*, (35).

72 Alexander, D. R. *Beyond Science*, Oxford: Lion (1971).

73 Berry, R.J. *Adam and the Ape*, London: Falcon (1975).

74 Jeeves, M.A. *Psychology and Christianity*, London: Tyndale (1976).

75 Osborne, D. *Way Out: Some Parables of Science and Faith*, Leicester: IVP (1977).

76 Jones, G.A. *Our Fragile Brains*, Leicester: IVP (1980).

77 Russell, C.A. *Science and Religious Belief*, London: University of London Press (1973); *Cross-Currents*, Leicester: IVP (1985).

78 Burke, D. (ed.) *When Christians Disagree: Evolution*, Leicester: IVP (1985) [Other topics in the series were: *Women; Pacificism; Signs and Wonders; Politics, Church and Unity*].

minister, wrote the first of around thirty well-circulated books in 1983.<sup>79</sup>

As noted above, some of the RSCF Conference papers were published in the *Christian Graduate*, but this ceased publication in 1983. Barclay put together a collection of articles in 1987 (some of which had previously appeared in the *Christian Graduate*),<sup>80</sup> and also produced a series of quarterly *Newletters* for RSCF members. However in 1989 these were superseded by a biannual journal *Science & Christian Belief*, under the joint auspices of CiS and the VI. Barclay edited this himself for three years, with Brian Robbins of the VI serving as Book Review Editor (see Appendix). *Science & Christian Belief* published (and continues to publish) some of the conference papers, but is also a forum for material and reviews from elsewhere. The papers given at the 2001 conference on the influence of post-modernism were published as a book, as were some of those from the 2008 conference recalling the influence of Darwin's ideas a century after their proclamation.<sup>81</sup> Mention should also be made of books based on lecture series given by Ghillean Prance, Colin Russell and Monty Barker financed by a grant obtained by Barclay from the Templeton Foundation,<sup>82</sup> and volumes from initiatives by John Stott – a Summer School at the London Institute of Contemporary Christianity,<sup>83</sup> and the London Lectures in Contemporary Christianity.<sup>84</sup> The publications from Gifford Lecture series certainly reached beyond an evangelical readership.<sup>85</sup>

## 1965 and beyond

The 1965 conference had a lasting impact on those who participated, and an enduring and expanding influence beyond them on whole generations of later thinkers grappling with contemporary issues in both North America and Europe.

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79 Polkinghorne, J. *The Way the World Is*, London: SPCK (1983).

80 Barclay, O.R. *Science and Christian Belief*, Leicester: UCCF (1987).

81 Alexander, D.R. (ed.) *Can We Be Sure About Anything?*, Leicester: Apollos (2005); Berry, R.J. & Noble, T.A. (eds.) *Darwin, Creation and the Fall*, Nottingham: Apollos (2009).

82 Russell, C.A. *The Earth, Humanity and God*, London: UCL Press (1994); Barker, M.G. *Psychology, Religion and Mental Health*, Edinburgh: Rutherford House (2000); Prance, G.T. *The Earth Under Threat*, Glasgow: Wild Goose Publications (2004).

83 Houghton, J.T. *Does God Play Dice?*, Leicester: IVP (1988).

84 MacKay, D.M. *Brains, Machine and Persons*, London: Collins (1980); Jeeves, M.A., Berry, R.J. & Atkinson, D. *Free to be Different*, Basingstoke: Marshalls (1984); Wyatt, J. *Matters of Life and Death*, Leicester: IVP (1998); Bryant, J.A. & Searle, J.F. *Life in Our Hands*, Leicester: IVP (2004).

85 MacKay, D.M. *Behind the Eye*, Oxford: Blackwell (1991); Polkinghorne, J. *Science and Christian Belief*, London: SPCK (1994); Hooykaas, R. *Fact, Faith and Fiction in the Development of Science*, Dordrecht: Kluwer Academic (1999); Berry, R.J. *God's Book of Works*, Edinburgh: T&T Clark (2003); McGrath, A.E. *A Fine-Tuned Universe*, Louisville KY: Westminster John Knox Press (2009); Livingstone, D. *Dealing with Darwin*, Baltimore: Johns Hopkins University Press (2014).

- Important friendships were established between experts in different fields, nurtured by sustained debate, discussion and reflection.<sup>86</sup>
- Those present were infused with a determination to share what they had learned with the Christian communities from which we variously came. MAJ returned to Australia, where he was Professor of Psychology at Adelaide University, with a fresh enthusiasm, where he gave a series of public lectures on the issues raised and helped to set up an Australian equivalent of the RSCF, which became known as the Institute for the Study of Christianity in an Age of Science and Technology (ISCAST).<sup>87</sup>
- Through the week of sustained debate and interaction in Oxford, many of those present were motivated to engage in public debate and for the first time to write for publication, especially targeting the wider Christian community of non-scientists concerned and often unsettled by some of the strident voices proclaiming that this or that new scientific discovery disproved basic Christian beliefs.

The reawakening within evangelicalism produced by the 1965 conference identified by Rios, remains an unfinished task. But what we surely seek is a reawakening within Christianity as a whole, involving a recognition of how our shared participation in the scientific enterprise has the potential to correct the fragmentation of Christianity which so mars our witness to a needy world. It is good to remember that the 1944 conference which gave birth to the RSCF wanted ‘to change the whole climate of thought about science and faith’ and, as Barclay said in his invitation to the 1965 conference, ‘we must aim to change the whole climate of thought in our countries’.

How have all these impacts worked out?

CiS separated itself from UCCF in 1996, albeit retaining close links with its parent body. Formally, it is now an independent charity and a limited company, with more than 800 members, about a fifth of them outside Britain. It is by far the biggest organisation in Europe concerned with issues of faith and science. (The American Scientific Affiliation is three years older, founded in 1941, with some 2000 members, mainly in North

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86 Thirty-five years after the Oxford Conference, MAJ marked the end of his Presidency of the Royal Society of Edinburgh with a week long Millennial International Conference on Human Nature (Jeeves, M.A. (ed.) *Human Nature*, Edinburgh: Royal Society of Edinburgh (2006)). At the Oxford Conference, Stuart Sutherland (now Lord Sutherland of Houndwood) was a young philosopher who had just got his first job as a lecturer; in 2000 he was Principal and Vice-Chancellor of Edinburgh University having previously been Vice-Chancellor of the University of London. He readily agreed to be joint Chairman of the Conference and was most helpful. The spirit of the Oxford conference permeated the planning and cooperation for the RSE Millennial event. Both Sutherland and MAJ benefited from recapturing it.

87 For a fruit of this, see the obituary of Allan Day, *Science & Christian Belief* (2014) 26, 165-167.

America.) The VI continues, but its influence is not great.

Since RSCF came into being in 1944, other groups have emerged: a Science and Religion Forum formed in 1975 'to promote discussion between scientific understanding and religious [not specifically Christian] thought'; a European Society for the Study of Science and Theology in 1985 'to promote the study of the relationships between the natural sciences and theological views'; a Society of Ordained Scientists in 1987, initiated by the biochemist and ordained Anglican Arthur Peacocke;<sup>88</sup> an International Society for Science and Religion in 2002 for 'the promotion of education through the support of inter-disciplinary learning and research in the fields of science and religion conducted where possible in an international and multi-faith context'; and, through the vision and energy of Denis Alexander, in 2006 The Faraday Institute for Science and Religion at St Edmund's College, Cambridge 'to carry out academic research, to foster understanding of the interaction between science and religion, and to engage public understanding in both these subject areas.' CiS has collaborated and given mutual support to other Christian professional groups, including the Christian Medical Fellowship, the Agricultural Christian Fellowship and the environmental groups John Ray Initiative and A Rocha. From 1989 to 2001, John Bausor and Michael Poole ran a group named Christians in Science Education, sponsored jointly by the Association of Christian Teachers and CiS.<sup>89</sup> In 2012 the Christian Engineers' Association merged with CiS.

A big difference between Britain and the United States is the isolation in America of very many very able Christians in 'Christian Colleges'.<sup>90</sup> In Britain, Christians have engaged much more with academia and society in general. For example, at least fourteen CiS members have been Fellows of the Royal Society; four have served as Vice-Chancellors (Frank Rhodes at Cornell, David Ingram at Kent Canterbury, Derek Burke at East Anglia, and Andrew Miller at Stirling); Robert Boyd, John Houghton, Ghillean Prance and John Wood have been Directors of major science institutions (and Houghton shared in the Nobel Peace Prize in 2007 for his work with the Inter Governmental Panel on Climate Change).<sup>91</sup> CiS members have

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88 Alexander, D.R. 'Obituary, the Revd Dr Arthur Peacocke.' (1924-2006) *Science & Christian Belief* (2007) 19, 75.

89 As education experts, Poole and Bausor were able to influence decisions about the curriculum on both the scientific and relevant religious issues. See e.g. Poole, M. *Beliefs and Values in Science Education*, Buckingham: Open University Press (1995).

90 Berry, R.J. 'Science in a Christian university', in Astley, J., Francis, L., Sullivan, J. & Walker, A. (eds.) *The Idea of a Christian University*, 218-233, Milton Keynes: Paternoster (2005).

91 Barclay, O.R. & Houghton, J. 'Obituary. Professor Sir Robert Boyd CBE FRS', *Science & Christian Belief* (2003) 16, 179-180; Houghton, J.T. *In the Eye of the Storm*, Oxford: Monarch (2014); Langmead, C. *A Passion for Plants: the Life and Passion of Ghillean T. Prance*, Kew: Royal Botanic Gardens (2001); Wood, J. 'From nanotechnology to macro-organizations: engineering atoms and more', in Berry, R.J. (ed.) *True Scientists, True Faith*, Oxford: Monarch (2014), 162-175.

not infrequently had letters published in *Nature* or the *Times*. An unusual example of this was during a debate in 1984 about the beliefs of church leaders, and whether miracles are still credible in a ‘scientific age’. It seemed right to criticise the sloppy thinking being bandied about, and we (MAJ and RJB) coordinated a letter to the London *Times* about miracles. Fourteen scientists signed the letter, most of them members of CiS. We wrote:

It is not logically valid to use science as an argument against miracles. To believe that miracles cannot happen is as much an act of faith as to believe that they can happen. We gladly accept the virgin birth, the Gospel miracles, and the resurrection of Christ as historical events.... Miracles are unprecedented events. Whatever the current fashion in philosophy or the revelations of opinion polls may suggest, it is important to affirm that science (based as it is upon the observation of precedents) can have nothing to say on the subject. Its ‘laws’ are only generalizations of our experience... (*The Times*, 13 July 1984).

The following week, a leading article appeared in *Nature*, agreeing with our statement on the nature of scientific laws, but dissenting from our conclusion about miracles, calling them, ‘inexplicable and irreproducible phenomena [which] do not occur – a definition by exclusion of the concept... the publication of Berry et al provides a licence not merely for religious belief (which on other grounds is unexceptionable), but for mischievous reports of all things paranormal, from ghosts to flying saucers’.

The editor of *Nature* received a number of letters dissenting from his argument, and, to his credit, he published them. CiS member Peter Clarke objected that ‘your concern not to license “mischievous report of all things paranormal” is no doubt motivated in the interest of scientific truth, but your strategy of defining away what you find unpalatable is the antithesis of scientific’.<sup>92</sup> A letter from MacKay in the same issue emphasised that

for the Christian believer, baseless credulity is a sin – a disservice to the God of truth. His belief in the resurrection does not stem from softness in his standards of evidence, but rather from the coherence with which (as he sees it) that particular unprecedented event fits into and makes sense of a great mass of data.... There is clearly no inconsistency in believing (with astonishment) in a unique event so well-attested, while remaining unconvinced by spectacular stories of ‘paranormal’ occurrences that lack any comparable support.

RJB was then invited to reply to the correspondence. He wrote:

The conventional view of miracles is that they depend on supernatural intervention in, or suspension of, the natural order. Some theologians

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<sup>92</sup> Clarke, P.G.H. *Nature* (1984) 311, 502.

have been over-impressed with scientific determinism, and have attempted a demythologized (miracle-free) religion.... Those who deny the possibility of miracles are exercising their own brand of faith; this is based on a questionable assumption, and one which creates problems with its implications. Miracles in the New Testament are described as unusual events which are wonders due to God's power, intended as signs. Confining oneself wholly to this category (leaving aside the question of whether other sorts of miracles occur), this makes at least some miracles acceptable and non-capricious, and independent of our knowledge of their mechanism.<sup>93</sup>

One of the chief ways for CiS to achieve its aim 'to develop and promote biblical Christian views on the nature, scope and limitations of science, and on the changing interactions between science and faith'<sup>94</sup> has always been through its annual conference. This has remained a major activity of RSCF (and then CiS) from the beginning, with a subject chosen by the Committee and papers prepared by local groups or given by expert speakers, often with a theologian to set the scene. In its early days, the RSCF was almost entirely concerned with how to present a true view of scientific knowledge and of the natural world to those who thought science and Christian faith were mutually hostile at a time of rising humanism. It is a matter for thanksgiving that there are those among its members who have managed to alter attitudes and make some impact on contemporary thought. But this should not encourage complacency: there are basic issues which do not go away and need to be faced afresh in every generation. Barclay identified eight such in a paper he gave at the 1982 Conference (which was on the theme, 'The current state of the science and religion discussion').<sup>95</sup>

The main conference has usually been a one-day event in London, with in more recent years, a Northern Conference as well, which has met in various centres. More recently, a Student Conference has also taken place (Table 1). In 1985, a residential meeting jointly with ASA was held in Oxford. This was welcomed by all who attended, and similar joint meetings have taken place in Cambridge (1989 and 2012) and Edinburgh (2000). Although it was 30 years ago, the main themes of the 1985 Oxford Conference as identified by MacKay<sup>96</sup> are no less relevant for CiS today:

- There should be a close and natural connection between realism and reverence for the Christian.
- We have responsibilities as God's stewards, which prevent us from

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93 *Nature* (1986) 322, 321-322.

94 <http://www.cis.org.uk/about-cis/aims/>

95 Barclay's paper was reprinted as the introduction to Barclay *op. cit.*, (80). An amended version appeared in *Science & Christian Belief* (2014) 26 (1), 89-92.

96 MacKay, D.M. 'Summing up of ASA/RSCF Conference', *Perspectives in Science and Christian Faith* (1986) 38, 195-203.

lapsing into pietistic passivity.

- The idea of the scientist as an active map-maker to explore but also foresee ways forward.
- Challenges remain, particularly to study further human personhood, artificial intelligence, personal relationships (serving or manipulating), the origin of the universe, the anthropic principle, the consequences of population increase.

Encompassing all these is a thread which has run throughout CiS history: the compatibility and the complementarity of natural science and Christian faith, and the foolhardiness of conflict between them, however hard non-believers (and sadly, some Christians – such as doctrinaire ‘creationists’) try to deny this. The very first paper in *Science & Christian Belief* was by the then RSCF Chairman, Colin Russell on ‘The conflict metaphor and its social origins’.<sup>97</sup>

This theme is not peculiar to CiS, nor did it originate with it. From the early days of Christianity, theologians and expositors have written about God’s ‘Book of Nature’. Darwin quoted Francis Bacon on the page opposite the title-page of the *Origin of Species*, ‘Let no man out of a weak concept of sobriety, or an ill-applied moderation think or maintain that a man can search too far or be too well studied in the book of God’s words or in the book of God’s works... [R]ather let men endeavour an endless progress or proficience in both.’ Historians are almost unanimous in describing how the study of the two books has gone on in parallel throughout the centuries.<sup>98</sup> The excitement of science is that the knowledge of the book of Nature is continually developing; the challenge for CiS is to be prepared to reinterpret the timeless book of Words in this changing milieu. We must be able apologists<sup>99</sup> but at the same time beware of becoming stuck in merely justifying ourselves as Christians who are scientists; we must not flinch from issues raised by all manner of controversial subjects, especially those at the interface of different disciplines – mind, soul, life, fate, and so on. CiS members have been active and often in the vanguard of probing such issues, countering the naive reductionism by which such topics are commonly treated (what MacKay termed ‘nothing-buttery’).<sup>100</sup> This is not

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<sup>97</sup> *Science & Christian Belief* (1989) 1, 3-26.

<sup>98</sup> See e.g. Russell *Cross-Currents*, Leicester: IVP (1985); Harrison, P. *The Bible, Protestantism and the Rise of Natural Science*, Cambridge: Cambridge University Press (1998); Knight, D. *Voyaging in Strange Seas*, New Haven CT/London: Yale University Press (2014).

<sup>99</sup> E.g. Clarke, P.G.H. ‘Neuroscientific and psychological attacks on the efficacy of conscious will’, *Science & Christian Belief* (2014) 26 (1), 5-24; McGrath, A.E. ‘New atheism – new apologetics: the use of science in recent Christian apologetic writings’, *Science & Christian Belief* (2014) 26 (2), 99-113; Alexander, D.R. *Creation or Evolution: Do we have to choose?*, (2nd edn. rev.), Oxford: Monarch (2014).

<sup>100</sup> e.g. Jones, D.G. *Brave New People*, Leicester: IVP (1984); Jones, D.G. *Manufacturing Humans*, Leicester: IVP (1987); Bruce, D. & Bruce, A. (eds.) *Engineering Genesis*, London: Earthscan (1988); Jeeves, M.A. *Human Nature at the Millennium*, Leicester: Apollos (1997);

to denigrate the need for apologetics, but to argue the challenge for CiS to go beyond them.<sup>101</sup> Tom McLeish has argued that we should be concerned more with a theology *of* science than with the plethora of questions around theology *and* science. For him,

neither science nor theology can be authentic unless they can be universal. There can be no barrier delineating territory between them that does not immediately nullify their essence. We need a ‘theology of science’ because we need a theology of everything. If we fail, then we have a theology of nothing.... Science and theology are not complementary, they are not in combat, they are not just consistent – they are ‘*of each other*’.<sup>102</sup>

McLeish wrote these words in 2014, 70 years after Oliver Barclay convened the group which was to blossom into the RSCF. McLeish is expressing an interpretation and ambition which follows directly from that of Donald MacKay, Reijer Hooykaas and many others over the last 70 years. It is a wise inheritance and a solid foundation. We must not stray from it – although one can almost hear Donald MacKay, with one eyebrow raised, enquiring whether we might need a good dose of ‘semantic hygiene’ as we explore what is meant by a ‘theology of science’.

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Our account has benefited greatly from *After the Monkey Trial*, Christopher Rios’s history of the ASA and RSCF. We acknowledge our use of it and discussions with Rios himself. Our thanks are due also to John Barclay and Bennet McInnes, and to the CiS Committee for asking us to review the history of CiS at the 2014 Conference. We are grateful also to Michael Poole, David Booth, Diana Briggs and Gareth Jones for their comments on a draft of this paper, based on their knowledge and involvement in many of the events described herein. We also acknowledge with gratitude the immense importance of the grants CiS has received in recent

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Jeeves, M.A. (ed.) *Rethinking Human Nature*, Grand Rapids: Eerdmans (2011); Bryant, J.A. *Beyond Human?*, Oxford: Lion (2013).

101 For example, has the amount of attention given to evolution questions hindered the development of a robust doctrine of creation and a strong ethic of creation care? q.v. Berry, R.J. ‘Disputing evolution encourages environmental neglect’, *Science & Christian Belief* (2013) 25 (2), 113-130.

102 McLeish, T. *Faith and Wisdom in Science*, Oxford: Oxford University Press (2014), p. 209. A review by Peter Clough (*The Reader* (2014) 111(4), 32) commented, ‘[His] perspectives on scientific and biblical knowledge are brought together in a profound concept: instead of a dualistic dialogue between the disciplines (as developed by John Polkinghorne and others), there must be an integrated theology of science. They are both deeply human endeavours that seek to heal the relationship between humanity and nature. This insight must open our minds to many crucial tasks facing Christians.’

years from the Templeton Foundation that have enabled it to explore and explain some of the ‘Big Questions’ in God’s world.

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**Malcolm Jeeves and Sam Berry are retired science professors. They have both been Presidents of Christians in Science**

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## Appendix. RSCF/CiS Officers

<b>President</b>			
1993-1995	R.J. (Sam) Berry	2007-2013	Keith R. Fox
1996-1998	Colin A. Russell	2013-	Andrew Halestrap
1999-2001	Derek C. Burke	<b>Secretary</b>	
2002-2008	Ghillean Prance	1944-1987	Oliver R. Barclay
2008-2014	Malcolm Jeeves	1987-1990	Mark Reid
2014-	Colin J. Humphreys	1990-2000	Bennet McInnes
		2000-2008	Caroline Berry
		2008-	Diana Briggs
<b>Chairman</b>			
1944-1954	R.J.C. (Bob) Harris	<b>Editor, <i>Science &amp; Christian Belief</i></b>	
1954-1964	John Bunton	1989-1992	Oliver R. Barclay
1964-1967	Alan J. Weir	1992-2013	Denis R. Alexander
1967-1988	R.J. (Sam) Berry	2013-	Keith R. Fox
1988-1994	Colin A. Russell		
1994-2001	Colin J. Humphreys		
2001-2007	John A. Bryant		

## Table 1. RSCF/CiS Annual Conferences

1944	Science and Christianity		Scientist
1945	Evolution and Cognate Problems	1963	Heredity, Environment and Human Responsibility
1947	Science, Christianity and Ethics	1964	Indeterminacy and Natural Law
1948	A Christian View of Nature	1965	Population, World Food Problems and the Exploitation of Nature
1949	The Scientific Method	1966	Human Knowledge: Models and Reality
1950	Natural Theology: its Place and Value Today	1967	Natural Theology Today
1951	What is Man?	1968	Christian and Humanist Views of man and of Human Progress
1952	Teaching Science	1969	Science and Ethics
1953	Science and Religion through the Centuries	1970	What difference does it make to a Scientist if he is a Christian?
1954	Nature and Supernature	1971	Science and the Bible
1955	Methods of Commending the Gospel	1972	The Abuse of the Environment
1956	‘And Behold It Was Very Good’	1973	The Scope and Limits of Apologetics
1957	When and in what sense does the Bible speak scientifically?	1974	Evolution
1958	Creation	1975	In Defence of Science
1959	Miracles	1976	Progress and Human Engineering
1960	The Christian View of the Practice of Science	1977	The Ultimate Freedom
1961	The Influence of Science on the Christian	1978	Ethical Issues in the Professional Life of the Scientist
1962	The Moral Responsibility of the		

