

State of the Art

The Creationism/ Evolution Debate

The Scientific Captivity Of Creationism

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"Hoom, hm, I have not troubled about the Great Wars," said Treebeard; "they mostly concern Elves and Men. That is the business of Wizards: Wizards are always troubled about the future. I do not like worrying about the future. I am not altogether on anybody's side, because nobody is altogether on my side, if you understand me: nobody cares for the woods as I care for them, not even Elves nowadays. ... And there are some things, of course, whose side I am altogether not on; I am against them altogether: ... these Orcs, and their masters."

(J.J.R. Tolkein, The Two Towers, part II of The Lord of the Rings, London: Unwin, 1974: 65)

Despite its (generally) low public profile there is a vigorous campaign underway in Australia to polarise people into two groups - those who accept the reigning biological paradigm we call 'evolution', and those who accept a religious position its advocates call 'creationism', 'scientific creationism' or 'creation science'¹. Following in the footsteps of a similar crusade in the United States it hopes to undermine the first group and in-

crease the popularity of the second. The key protagonists are the defenders of evolution and these Christian fundamentalists who see the account of origins in the early chapters of Genesis as an historical scientific account of the process of creation. I feel restless in either camp (as they are commonly defended) and am not, in Treebeard's words "altogether on anybody's side".

'Creationists' tie their exegesis of the biblical creation accounts to an outdated philosophy of science, and in their attempt to counter these arguments 'evolutionists' often retreat to an equally inadequate understanding of science².

In the Christian community this controversy often translates into a polarisation between groups calling themselves 'scientific creationists' and 'theistic evolutionists'. Belief in 'creation' does not in any way imply acceptance of the rigid structure of 'creationism'. Of course this whole debate, whether within or without the church, can only take place inside a Christian frame of reference, and indeed as I shall explain, within a particular

Christian setting. In a Buddhist setting, for example, the debate would never arise since in Buddhism the world is in continuous flux (including any 'gods') with any question of 'beginnings' totally unanswerable³.

I. The Creationism Evolution Debate in Australia

While this debate has been imported from the United States it has taken firm root in Australia⁴. Two Australian groups, the Creation Science Foundation (founded in 1980) and the Creation Research Centre (founded in 1987), both based in Queensland and the second an offshoot of the first, have enthusiastically followed the line of their parent organisation, the Californian based Institute for Creation Research established in 1963 by Henry Morris. They speak to churches, school classes and other groups, attempting to convince people that a clear-cut choice must be made between the (atheistic) theory of evolution and special creation in six literal days. If the audience is sympathetic they argue that evolution is a work of the Devil and the cause of all the evils of humanity⁵, and in less congenial surroundings they simply argue that the special creation model is better supported by the scientific facts than the evolution model.

As in the United States they are attempting to persuade educational authorities that creationism should be given equal time to evolution in school biology courses. It seems that only in Queensland were they successful for a time when in 1977 the National Party Minister for Education stated that creationism should be taught alongside evolution in the public education system. Since then, however,

reference to creationism in the science syllabus was first attenuated and then dropped altogether⁶. Nevertheless the story is a continuing one with no apparent slackening of the creationist campaign. The Australian books: *Creationism: An Australian Perspective* (1986), published by the Australian Skeptics; *Confronting Creationism: Defending Darwin* (1987), the proceedings of the **In Defence of Science** symposium sponsored by such groups as the Australian Institute of Biology and the Royal Zoological Society of Australia; and *The Creation Science Controversy* (1990) by the Catholic Education Adviser Barry Price, are all expressions of concern about the constant attempts of creationists to push for equal time in school science syllabuses⁷. They are proof of the contemporary nature of the controversy and the need for scholars to study this phenomenon carefully and not dismiss it as of no consequence.

Broadly speaking and with reference to the creationism/evolution debate, William Phipps sets out two extreme views on the relationship of theology and science. These are 'antitheological scientism' at one pole and 'antiscientific creationism' at the other⁸. A classical example of the first position is that of the French philosopher Auguste Comte, though he died two years before Darwin published *The Origin Of Species* in 1859. For him science was the measure of all things and he dismissed speculation about divine things as superstition. Comte called his philosophy 'positivism', where the term 'positive' here has the sense of that which is given and has to be accepted as we find it without further explication⁹. In other words he argued that biblical theology and natural science are mutually exclusive, and that it is theology which must be rejected. Others following him would

apply this same reasoning to theology and evolution.

At the opposite end of the spectrum is 'antiscientific creationism' which affirms again the mutual exclusivity of theology and science but claims that it is science (and evolution in particular) not theology that is to be rejected. An expression of this approach is the comment by David Watson in his book on evolution: "if Science is right, then the Bible is wrong: if the Bible is right then Science is wrong."¹⁰

But many who seem to be advocating this approach have in reality a far more complex approach to science, and this phenomenon is the key to this paper. Even Watson bolsters his argument by reference to science when it suits him¹¹. This means that people such as David Watson and Henry Morris (who is perhaps the best-known creationist apologist) are not 'antiscientific creationists' in the strict sense that Phipps defines the word. Their relationship to natural science is much more complex and ambiguous than that. Morris also seems quite antiscience when he says: "there seems to be no possible way to avoid the conclusion that, if the Bible and Christianity are true at all, the geological ages must be rejected altogether."¹² Morris contrasts two models on origins: the 'Evolution Model' and the 'Creation Model' and in his avocation of the 'Creation Model' argues that "the basic facts of science today fit the special creation model much better than they do the evolution model."¹³ He summarises the first model as: (1) naturalistic; (2) self-contained; (3) non-purposive; (4) directional; (5) irreversible; (6) universal; and, (7) continuing; and the second as: (1) supernaturalistic; (2) externally directed; (3) purposive; and (4) completed. What this shows is that he cannot be described as

simply anti-scientific. He displays a complex and inconsistent relationship to modern science which we will need to examine more closely. In this paper I will attempt to clarify the background and nature of the creationist epistemology and argumentation.

II. Creationist Interpretation of Genesis Chapters 13

For creationists the question is, can we find a one-to-one relationship between the account of creation in the early chapters in Genesis and what science tells about the same event? This question they answer in the affirmative. Morris¹⁴ for example sets out the following table for the six days of creation:

- One* *Energising of the physical elements of the cosmos.*
- Two* *Formation of the atmosphere and hydrosphere.*
- Three* *Formation of the lithosphere and biosphere.*
- Four* *Formation of the astrosphere.*
- Five* *Formation of life on the atmosphere and hydrosphere.*
- Six* *Formation of life for the lithosphere and biosphere.*

It is transparently clear that Genesis affirms God as Creator of the universe, but what such attempts lack is sensitivity to the kind of literature we are dealing with here. However even if we work within the framework of the creationist approach to Scripture the problems are insuperable. To demonstrate this I shall focus on Genesis 2:6 reproducing part of the detailed discussion which Francis Andersen presents in his article on the first three chapters of Genesis¹⁵. The King James Bible translates this verse: "but there went up a mist from the earth and watered the

whole face of the ground". The Revised Standard Version does the same as the King James but indicates in a footnote that the word translated 'mist' could also be translated 'flood'. The Jerusalem Bible takes the second alternative and translates: "however a flood was rising from the earth and watering all the surface of the soil." The verse in question says literally that "an 'ed was coming up from the ground". What does 'ed refer to¹⁶? If we don't know what it is, we can't use the verse to bolster any scientific theory of origins, or anything else. The word 'ed occurs only twice in the Hebrew Bible, in Genesis 2:6 and Job 36:27. In Genesis it is connected with the ground, but in Job the associations are with clouds and rain. What did the Israelites think this word meant? Unfortunately, points out Andersen, they never produced a dictionary of their own language and there is no suitable cognate in any other Semitic language. For this reason the early scholars were forced to guess. The Greek Septuagint translated it as 'spring' in Genesis and as 'cloud' in Job. In time the guess made for Job prevailed over the guess made for Genesis and the meaning 'mist' passed into general circulation for both verses and was 'canonised' by mediaeval Christian scholars.

Taking the translation 'mist' as unproblematic Henry Morris and John Whitcomb developed a complicated meteorological history of the earth between the 'mist' of chapter two and the 'bow' of chapter nine¹⁷. But all this falls to the ground if 'ed doesn't mean 'mist'¹⁸! In fact it seems that recent archaeological discoveries support the Septuagint translation as more likely after all. Hence the more recent translations use 'flood' or 'groundwater'. In other words to decide this one way or the other we

need knowledge from **outside** the biblical text, and at the moment it is knowledge that we do not have. This means that the efforts of Morris and Whitcomb to prove that Genesis 2:6 is a scientific description of the process of evaporation from both land and water are completely misguided, even in the context of their own hermeneutic.

Attempts to demonstrate the scientific character of Genesis 13 go back a long way¹⁹. Andersen notes that the earliest known attempt is probably that in the pseudepigraphic book 2 Enoch. In this book the author read Genesis through the physics, astronomy and psychology of his day. Andersen writes that "the two unquestionable things - the Bible and Science - were shown to be one."²⁰ Thus the text was read in terms of the theories accepted by society at large. One question of great interest at this time was, 'What are people made of?'. Among the answers given there is wide agreement that people are made out of earth but with a special ingredient that makes them different from all other animals. 2 Enoch tells us that God created people out of seven components: earth, dew, sea, stone, clouds, grass and wind²¹.

This comes across as strange to us today. It is hard to take it seriously. But it satisfied serious intellectual and spiritual needs by relating Genesis to the best science that could be found at the time²². The reason they no longer appeal to us is that our science is so different from theirs. Relating the Bible to the science of the day will have quite different results in different ages. To emphasise the point Andersen²³ adds that,

It was not until the work of Louis Pasteur that the proof of Genesis 1:20 by the theory of spontaneous generation (up till then the uni-

versal scientific belief) was given up. John Wesley (Sermon LVI) believed that Genesis 1:1 meant "he first created the four elements, out of which the whole universe was composed: earth, water, air, and fire, all mingled together in one common mass". There was a time when everybody believed that. Now nobody does. In a hundred years the things that people are writing about Genesis 1-3 at the present time, which bring in nuclear fission or cosmic rays or whatever else happens to be current in twentieth-century science, will probably sound as ridiculous then as the conception of elements in 2 Enoch now does to us.

For these reasons alone all attempts to coordinate Genesis 1-3 with the science of the day are always doomed to failure.

III. Philosophy of Science and Biblical Interpretation

However, not only has the text been artificially forced to match up with the currently acceptable science in creationist interpretations of Genesis but philosophy of science has had a pervasive influence on the fundamentalist biblical interpretation adopted by them. Despite this influence creationist expositors seem completely unaware of the controlling epistemology standing behind their doctrine of creation. They do not seem aware that their interpretation of the Bible is often determined by extra-biblical philosophies.

Some time ago it suddenly dawned on me that people who argued for creationist and fundamentalist positions were in fact being more rigorously scientific than others less religious. The conclusions I was hearing were religious ones but the way in which they were presented was scientific. It was not so much religious discourse but scientific discourse on a religious theme. My perception of this

was rather vague at the time, more felt than understood, but with the help of my reading since I have been able to crystallise and give substance to this feeling. Books that have helped my understanding in this are *The Authority and Interpretation of the Bible* (1979) by Jack Rogers and Donald McKim, and *The Creationist Movement in Modern America* (1991) by Raymond Eve and Francis Harrold, the most perceptive book yet published on creationism as a social phenomenon²⁴.

To understand creationist epistemology and its relationship to philosophy of science we need to begin with the early writer on scientific method, the English philosopher-politician Francis Bacon (1561-1626). He set out a (now discredited) methodology based on induction, which is a process of reasoning from observations and experimental results to some general law²⁵. There are many criticisms of this approach and the arguments are well-rehearsed today. For example, how do we know what observations to make or what experiments to construct²⁶?

This perspective was picked up and modified by the Scottish philosopher Thomas Reid (1710-1796). His was a 'common sense' philosophy which argued that our senses are capable of giving us immediate contact with reality independent of our minds²⁷. The focus of Reid's Common Sense Realism was on observable facts known to the senses. Furthermore, following Bacon, he argued that "what can fairly deduced from facts, duly observed, or sufficiently attested, is genuine and pure."²⁸

These perspectives became widespread and dominant in the United States. As Mark Noll explains, the "Scottish variation of the new science provided such a satisfying explanation of reality for so many Americans that it was virtually the

sole scientific perspective in America during the early nineteenth century.²⁹ Indeed Commonsense philosophy and Baconianism inductivism became the everyday epistemology of ordinary people. It became the basis of what Michael Cavanaugh calls the 'empiricist folk epistemology' of American culture.³⁰ As Eve and Harrold point out "for most Americans, (1) reality is perceived simply and directly through our senses, and (2) science is the collection of proved facts."³¹ Many factors reinforced this folk epistemology. Alice Kehoe reflects that "a philosophy that made science and the search for knowledge not much different from engineering and that put it within the reach of any ordinary hardworking man was well suited to Americans."³²

Thus it greatly influenced significant American evangelical scholars of the Princeton school like Archibald Alexander (1772-1851), Charles Hodge (1797-1878), Benjamin Warfield (1851-1921), and Gresham Machen (1881-1937)³³. The approach of these men to Biblical interpretation has not been confined to America but is firmly entrenched in conservative Christian circles worldwide, and it is this view that stands behind the interpretation of Henry Morris and others like him of the first three chapters of Genesis.

Let us see how this worked out in the famous and influential three volume *Systematic Theology* of Charles Hodge³⁴. Hodge explained in the beginning of this work that knowledge in theology was acquired just as knowledge in the natural sciences, by a process of induction from observable facts. Rogers and McKim explain that "the manner in which Hodge interpreted the Bible arose from his Scottish common sense assumptions. *Words in the Bible were treated like facts of nature.*"³⁵ Furthermore Hodge asserted that the inte-

gration of all knowledge could be accomplished on the basis of the Biblical data. At the beginning of his career he confidently appealed for support to the leading scientists of his day and because they were all doing things the same way he found his views confirmed. However, when a Darwinian evolutionary world view began to challenge his understanding of reality things changed³⁶. Since words in the Bible were just like facts of nature in Hodge's mind he now began to refute scientific 'facts' with Biblical 'facts'. He came to see the Bible as containing all the facts which could be discovered in nature. He was confident that the Biblical data could be used to correct the findings of science. In conclusion, his position was of 'theology as scientific induction'³⁷.

To summarise then, these theologians were bound to an eighteenth-century Baconian inductivism and Commonsense philosophy. They were unable to separate their exegesis of the Bible from the eighteenth-century theories that determined their interpretation. Despite their intention to give the Bible priority³⁸, exegesis of the Bible was constrained by philosophical ideas which were imposed on it from outside³⁹. People like Morris continue in this tradition, treating the words of the Bible like scientific facts not realising their own acquiescence to the philosophies of Francis Bacon and Thomas Reid. The fascinating and significant point to note here is that their biblical exegesis and religious position flow out of a scientific perspective on the world⁴⁰.

Twentieth-century creationists are also unaware of the changing paradigms and philosophies of science which have gone through quite a few mutations since the time of Newton. And because of their subjugation to an outdated philosophical posi-

tion they are, as Bruce Vawter puts it, impervious to the magic and poetry of the biblical text itself⁴¹. Conrad Hyers⁴² writes concerning biblical literalism that it

pays a high price for the hope of having firm and unbreakable handles attached to reality. The result is to move in the opposite direction to religious symbolism, emptying symbols of their amplitude of meaning and power, reducing the cosmic dance to a calibrated discussion.

If we treat the Bible on the basis of philosophies foreign to the text then we will hinder the process of understanding it. With just this in mind Clark Pinnock calls upon fellow Christians not to allow "the modern demand for scientific information to silence the agenda of God's Word"⁴³.

We have seen then that, paradoxically, this religious fundamentalist and seemingly anti-scientific approach to the question of origins is supported by a scientific mindset. Certainly this mindset is uncritical and out of date but creationism is captive to the scientific ethos in ways that it is not itself aware. To this largely unconscious influence must be added creationism's conscious and determined effort to find support for the Creation Model in the 'scientific facts'. In conclusion, my initial perception of the scientific character of creationist fundamentalism has proved correct.

This means that creationism is as much a **scientific fundamentalism** as a religious fundamentalism! It is insufficient to characterise it as preeminently a religious phenomenon and belief⁴⁴. What we have seen is that the creationist epistemology and resulting biblical interpretation are themselves undergirded by a Baconian philosophy of science. While their position rests on the authority of the

Bible and while they place it above the authority of science their adherence to an archaic philosophy of science means that their loyalties actually lie elsewhere! We have then 'the scientific captivity of creationism'.

The term 'scientific fundamentalism' may seem strange to some but surely people may construct their fundamentalisms from many varied 'noospheric' materials, including scientific ones. After I had coined this phrase I was interested to find that I was not the first to do so. The Fundamentalism Project directed by Martin Marty and supported by the American Academy of Arts and Sciences called its fourteenth fundamentalism 'scientific Fundamentalism'⁴⁵. Marty did not elaborate on this in his 1989 Charles Strong Lecture but if fundamentalisms 'look backward' and 'freeze' some moment, event, text, philosophy or position as the 'perfect place in time or space from which to measure'⁴⁶ then people may do this just as well with philosophies of science (as I am arguing here) or with economic theories (economic fundamentalisms) or, more usually, with religious positions (religious fundamentalisms).

No doubt some of my readers will have noticed that my title has a certain structural similarity to the famous 1520 treatise of Martin Luther 'The Babylonian Captivity of the Church'. In Luther's eyes, just as the Jews were carried away into captivity under the tyranny of the Babylonian Empire so in Europe the Christians were carried away from the biblical source of faith and made subject to the tyranny of the papacy through the misuse of the sacraments. One of the key issues for Luther was the imprisonment of the Christian scriptures by an extrinsic authority. I suggest that creationism, for

all its biblicism, finds itself in a similar position. **It is not so much a religious fundamentalism in scientific guise but a scientific fundamentalism with religious goals.**

IV. Further Comments on Philosophy of Science and Creationism

Two further comments need to be made to complete my analysis of the relationship of creationism and philosophy of science. The first is that though creationists conceive of science in terms of Baconianism principles they fail to do Baconian science themselves⁴⁷. They do not gather 'facts' in the field or laboratory, nor work to discern the patterns in these facts. Nor have they published any significant papers in scientific journals⁴⁸. For this reason Eve and Harrold characterise creationism as an 'incomplete Baconianism'⁴⁹. Its scientific character is more exegetical than practical. Most of the time creationists criticise the writings of evolutionists from their Baconian perspective but fail to 'complete' their philosophy with concrete research.

The second comment is that not only has Baconianism become part of the intellectual makeup of creationism but it has also made apologetic use of the falsificationism of Karl Popper⁵⁰. Creationists like Morris reply to the criticism that creationism is not scientific with the counterclaim that evolution is not scientific either⁵¹. They do so under the banner of falsification. Morris quotes from Popper's 1963 address to the Federation of American Societies for Experimental Biology where he raises the question as to what would constitute a possible refutation of the theory of natural selection⁵². I have exam-

ined this subject elsewhere⁵³, but it is significant to note that Popper has stated in a letter to *New Scientist* that he had never intended to deny scientific character to the theory of evolution⁵⁴.

Of greatest interest for us is that here, standing behind the creationist apologetic is yet **another** philosophy of science, selectively applied. We have seen the fundamental place of (an unexamined) Baconian inductivism in creationism; now we see the use of (an equally unexamined) Popperian falsificationism⁵⁵. Again the scientific character of creationism is revealed, though in the case of falsificationism its use is more self-conscious and less central to their whole approach.

V. The Mystery of Beginnings

One of the aphorisms of R.D. Laing is simply: "If I don't know I don't know, I think I know."⁵⁶ It seems to me that in the debate between creationists and evolutionists **both** sides assume they know more than they really know. They don't know they don't know. I have indicated this with respect to the creationist critique of evolution, but the evolutionist counter-critique of creationism is not immune to this blindness either. There is an inbuilt arrogance in both positions. Too often scientists have attempted to refute creationism with their own equally unexamined versions of Baconianism or falsificationism.

It needs to be understood that 'evolution' is a **changing** theoretical complex. The foundation stones of Darwin's theory of origins, that is, natural selection and the accumulation of small, accidental, cumulative changes (gradualism) are today under siege from within biological science itself⁵⁷. The mechanisms of the development of life are not well understood and such explanations as: genetic change during embryonic development (embryonic change), alterations in the chromo-

somes leading to modifications of life forms (chromosomal speciation), acquired characteristics passed on from parents to offspring (neo-Lamarckian mechanisms), catastrophes in which whole life forms are destroyed (punctuated equilibria), and survival not of the fittest (as Darwin thought) but of the luckiest, are recent attempts to fill the gap⁵⁸. Put together these suggest quite a different perspective than that of Darwin⁵⁹.

It is also coming to be recognised that life must obey some organising or self-organising principles which favour certain forms of life over others (the morphological approach)⁶⁰. Darwinism is a theory of stability which affirms the capacity of forms to persist through genetic change but it doesn't say anything about the generation of form. Add to this the revolutionary work of Ilya Prigogine on the thermodynamics of non-equilibrium systems, and the dynamic and unfinished state of theories on life's development is highlighted⁶¹. Prigogine's theories suggest that order and organisation can actually arise 'spontaneously' out of disorder and chaos. These theories have forced a rethink of our traditional understanding of the laws of thermodynamics. Prigogine argues that under non-equilibrium conditions entropy may produce rather than inhibit order.

Francis Hitching⁶² in his book on the problems of Darwinian theory concludes that

The new biology is looking afresh at living things - at their shapes, their patterns, their dynamics and their relationships. If after more than a century, natural selection has been tested and found wanting, and if we are left once again with a sense of ignorance about origins, Darwin would not have

mind. Science is a voyage of discovery, and beyond each horizon there is another.

The more we know the more questions we throw up. "As our knowledge grows so does our ignorance" wrote Kenneth Boulding⁶³.

But not only do we need a 'sense of ignorance' about the evolution of the universe we need a 'sense of mystery'. What is missing from most evolutionist and creationist writings is the acknowledgment that **they do not have the whole story**. In their self-righteous avocation of their respective positions they have assumed that they know more than they really know. Both sides have lost a sense of the mystery of matter and the mystery of its genesis. We need a sense of the infinity of what is beyond us, and the mystery and depth of the things which we take for granted⁶⁴.

Modern science tends to eliminate mystery as a category. It does not expect to find pockets of mystery which it will not be able to penetrate⁶⁵. The whole controversy over origins has been characterised by a rationalistic and scientific mindset that has obscured as much as it has revealed. Combining proposals by Eric Mascall and Rudolf Otto I suggest that we need to acknowledge a genuine distinction between problems (which science may competently tackle), puzzles (which analysis may clarify), and mysteries (which even when we understand them to a degree, remain irreducibly mysterious)⁶⁶. Despite the likelihood of complex situations and the difficulty of demarcation I would argue that such a stance is more realistic than the *carte blanche* denial of any category of mystery.

References

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- 6 See Price: 2-4, 183-86, 197-99; Bridgestock and Smith: 8.
- 7 Note also the concerns raised by the questionnaire given by Professor of Zoology, Rhondda Jones to 613 first-year students at James Cook and Griffith universities. See Jones, 'Evolution and Creationism: The Consequences of an Analysis for Education', *Quadrant*, 32, 8 (August, 1988): 25-27.
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- 11 Eg. *ibid*: 52-56.
- 12 Henry Morris, *Scientific Creationism (General Edition)*, San Diego, California: Creation-Life, 1974: 255.
- 13 *Ibid*: 203.
- 14 *Ibid*: 208.
- 15 Francis Andersen, 'On Reading Genesis 1-3', *Interchange*, 33 (1983): 11-36.
- 16 *Ibid*: 11-14.
- 17 See Henry M. Morris and John C. Whitcomb, *The Genesis Flood*, Grand Rapids, Michigan: Baker, 1963: 241-43.
- 18 It is also thrown into doubt if meteorology changes over time. 19 Andersen: 16-28.
- 20 *Ibid*: 17.
- 21 *Ibid*: 31.
- 22 *Ibid*: 28
- 23 *Ibid*.
- 24 Jack B. Rogers and Donald K. McKim, *The Authority and Interpretation of the Bible: An Historical Approach*, New York: Harper and Row, 1979: 235-379; and Raymond A. Eve and Francis B. Harrold, *The Creationist Movement in Modern America*, Boston: Twayne, 1991: 54-93. See also Mark Noll, 'Who Sets the Stage for Understanding Scripture?', *Christianity Today*, 14 (May 23, 1980): 14-18; and Alice B. Kehoe, 'The Word of God' in *Scientists Confront Creationism*, Laurie R. Godfrey ed., New York: W.W. Norton, 1983: 5-12.
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- 26 For criticisms of inductivism see Alan F. Chalmers, *What is this Thing Called Science?*, 2nd. edn., St. Lucia: University of Queensland Press, 1982: 1-21.
- 27 See Flew: 63-64, 280; Rogers and McKim: 235-42; Noll: 14-15; Kehoe: 5-6; and Eve and Harrold: 61-62, 85-86.
- 28 Thomas Reid, *Essays on the Intellectual Powers of Man*, Cambridge, Mass.: MIT Press, 1969 reprint: 46. Quoted in Rogers and McKim: 240.
- 29 Noll: 14.
- 30 Cavanaugh, 'Scientific Creationism and Rationality', *Nature*, 315: 185-89. Quoted in Eve and Harrold: 62.
- 31 *Ibid.*
- 32 Kehoe: 6.
- 33 Rogers and McKim: 263-379.
- 34 Charles Hodge, *Systematic Theology*, 3 vols., New York: Charles Scribner's Son's, 1871. See Rogers and McKim: 274-98.
- 35 *Ibid.*: 229, italics added.
- 36 *Ibid.*: 296-97.
- 37 *Ibid.*: 295.
- 38 Cf. Morris, *Scientific Creationism*: 215.
- 39 *Ibid.*: 302.
- 40 On this see Bruce Vawter, 'Creationism: Creative Misuse of the Bible', *Is God a Creationist?: The Religious Case against Creation-Science*, Roland M. Frye ed., New York: Charles Scribner's Sons, 1983: 76-77.
- 41 *Ibid.*: 77.
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- 43 Pinnock, 'Climbing Out of the Swamp: The Evangelical Struggle To Understand the Creation Texts', *Interpretation*, 43, (April, 1989): 153.
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- 48 On this last point see Price: 34-36.
- 49 Eve and Harrold: 86.
- 50 On this see A. David Kline, 'Theories, Facts, and Gods: Philosophical Aspects of the Creation-Evolution Controversy', *Did the Devil Make Darwin Do It?: Modern Perspectives on the Creation-Evolution Controversy*, David B. Wilson, Ames, Iowa: Iowa State University Press, 1983: 37-44.
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62 *Ibid*: 263.

63 Kenneth E. Boulding, *The Meaning of the Twentieth Century*, New York: Harper and Row, 1965: 155. Quoted in Harold Schilling, *The New Consciousness in Science and Religion*, London: SCM, 1973: 118. On the question of whether science is an inherently bounded venture see chapter 4, 'An End to Science?', in Nicholas Rescher, *Forbidden*

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South Asian Women's Study and Support Group (SAWSSG)

National Centre for South Asian Studies

Melbourne Australia July 27-28, 1994

Women, Power and Cultural Difference in South Asia: Negotiating Gender

The relations of power and constructions of identity and difference concerning women in non-Metropolitan countries are fraught with epistemological difficulties. There are complexities of class, subjectivity and historical-cultural development. How these experiences structure the everyday reality of women's lives can be understood from a number of perspectives i.e. anthropology, psychoanalysis, philosophy, literary criticism, post-colonial discourse. The aim of the conference is to explore theoretical frameworks and their implications for praxis in the South Asian context.

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