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The World-View as it affects Scientific and other Knowledge: with Special Reference to the Theory of Evolution

Clash of world-views

The growth in the creation science movement and its very vociferous attacks upon the theory of evolution (and also upon a number of other aspects of science including the geological time scale, plate tectonics and even the concept that the velocity of light *in vacuo* is constant) has led to a vigorous response in some scientific circles. In Australia there has been formed the Australian Association for the Protection of Evolution. In a number of scientific journals there have been articles and letters vigorously attacking 'Creation science'. The Australian Science Teachers Journal of March 1985 contains articles of this type. It is to be regretted that much of this vigorous discussion has produced more heat than light. Both sides have made claims that go far beyond the evidence. The case for evolution has been argued with almost religious fervour rather than in the best traditions of the sciences. The reason for this regrettable heat is that the basic argument is not, as may appear, a question of origins but a confrontation of two mutually exclusive world-views.

However it is over-simplistic to equate (as would the extremes on both sides) the creation science position with the Christian world-view, and the evolutionary position with the materialistic world-view. This over-simple approach ignores the nature and structure of science and the hermeneutic and exegetical problems associated with the early chapters of Genesis.

Any attempt to elucidate the problem involves a consideration of the philosophical structure and restraints under which science works. The fact that these are rarely mentioned in scientific works does not make them any less important.

All people and all societies have some type of world-view. This world-view may be held relatively constant over long periods of time or it may be in a constant state of change.

Contrasting world-views become evident when a person moves from one culture, or even a sub-culture, to another. The explanation of the cause of disease in a European culture is very different from that in a primitive African tribal culture. These differences do not result

from the relative intelligence of the two peoples but from their possessing totally different world-views.

The world-view and modern science

Although much science today is identified with a materialistic world-view, it was the Christian world-view that enabled modern science to develop. This was because it provided a suitable intellectual environment for scientific endeavour. This is true notwithstanding the many attacks made by the Church on the work of the early scientists. Hooykaas states:

Modern science arose when the consequences of the Biblical conception were fully accepted. In the 16th and 17th centuries science was led out of the blind alley into which it had got through the philosophy of Antiquity and the Middle Ages. New horizons were opened. The picture of the world as an organism was replaced by that of the world as a mechanism. It is not generated but *made*; it is not self supporting, but needs maintenance.¹

Primarily, it is the belief that God, the Creator, is a God of order that makes it reasonable to suppose that His universe would be orderly and hence possible to investigate. This made modern science possible. The scientific assumption of the uniformity of nature has its ultimate justification in the Hebrew-Christian belief in the orderliness of God. Experimental science became possible because the Christian belief in God's transcendence meant it was not irreverent to experiment with the creation, God being separate from His creation. Experimenting with nature becomes blasphemy in a pantheistic religion, where everything is god.

In Western society today there are competing world-views. These competing concepts have been carefully analysed by Francis Schaeffer in *He is there and He is not Silent*.² There is the traditional Christian world-view based upon a belief that all things have their origin in an Intelligent, Infinite, Personal Creator. Opposed to this view is the idea that all things have their origin in impersonal non-intelligent matter-energy plus time plus chance. The understandings of life based on these contrasting world-views are naturally very different. What is not always realised is that these different world-views also affect the understanding of all knowledge, including

1. R. Hooykaas, 'A New Responsibility in a Scientific Age', *Free University Quarterly*, 1961, Vol.8, pp.78-97.

2. Frances A. Schaeffer, *He is there and He is Not Silent*, London, Hodder and Stoughton, pp.15-24, 1972.

scientific knowledge. This intellectual climate determines not only what theories are acceptable but even how sense-data are interpreted. It is equally true that scientific and other concepts may influence the contemporary world-view. It is a two-way process.

There is a widespread belief that scientific knowledge is totally objective in nature and hence not influenced by the current world-view. That is, 'scientific fact' is totally objective knowledge and so is quite independent of extraneous factors such as the personal views of the scientist or even the generally accepted opinions of the scientific community or the populace at large. This may seem to be desirable, but it is simply not possible. *All* knowledge involves presuppositions and these presuppositions are derived ultimately from the world-view. If nothing is assumed, nothing is proved. Presuppositions, by their nature, cannot be either proved or disproved, but they can be examined for their internal consistency and their consistency with the world-view of those who assume them. Professor David F. Horrobin, Professor of Medical Physiology at University College, Nairobi realises that the validity of science depends upon presuppositions. In his book, *Science is God*, he states:

Every scientist must make two assumptions which are quite unproveable, even in theory. The first is that the universe is orderly and the second is that man's brain is capable of unravelling the mysteries of that order.³

In the early 1960s the writer listed a number of important presuppositions in science. No exhaustive list is possible but some of the important ones that the writer listed then are:⁴

- (1) The existence of the scientist, of other scientists, and of the universe.
- (2) That the human mind is capable of rational thought.
- (3) The Uniformity of Nature—that is to say, if an identical experiment to that which was carried out today . . . had been carried out yesterday, 10,000 years ago or in a hundred years time, the results would be identical. That is, the universe is orderly.
- (4) That the Universe is coherent, and, in part at least, intelligible. This is closely related to assumption (2) above.
- (5) That the scientist is capable of interpreting the sense data which he received from the world outside. (This point needs further

3. David F. Horrobin, *Science is God*, Aylesbury, Medical and Technical Publishing Co. Ltd., p.13, 1969.

4. W. Grainge Clarke, *The Continuing Conflict*, R.S.C.F. Paper No.2, Sydney, Inter-Varsity Fellowship of Evangelical Unions (Australia), [1965], pp.9-10. This paper was the result of a series of studies in Christian Apologetics given to the Melbourne University Evangelical Union Science Faculty Group about 1960.

explanation. Even the sense of sight needs training and experience to interpret the data received by the eye. In general we perceive what we expect. If one is confronted with an entirely new situation then the data are often misinterpreted. The difficulty that first year students have on first using a microscope is a well-known example of this. Likewise, when English painters first tried to paint Australian gum trees, they represented them in the forms of the familiar European trees, presumably because this is what they perceived, because this was how they expected trees to appear.)

- (6) Certain ethical qualities of honesty, respect for truth, etc., in the observer.
- (7) Certain special presuppositions directly related to the subject in hand, e.g. the axioms of geometry.

The first six of these presuppositions are only defensible on the Christian world-view that was current at the time modern science was developing. Most of the early scientists, for example Galileo Galilei, Nicolaus Copernicus, Isaac Newton, were practising Christians, or at least held the prevailing Christian world-view, so it is to be expected that they would work within the usually unexpressed, presuppositions based upon such a world-view. On the now popular materialistic view, none of these first six presuppositions is justifiable. It is not possible to discuss this in detail here but the writer has developed this point in much more detail elsewhere.⁵ The change in world-view away from the Christian position has produced an interesting problem. To use Francis Schaeffer's terms it is a change from modern science to modern, modern science.⁶ This involves the introduction of a changed presupposition, a change from a belief in uniformity of natural causes in an *open system* to uniformity of natural causes in a *closed system*. This closed system leaves no room for any action upon it either by God or even ultimately by intelligent man. 'Under the influence of the presupposition of the uniformity of natural causes in a closed system,' as Schaeffer says, 'the machine does not merely embrace the sphere of physics, it now encompasses everything.'⁷ Of course this changed presupposition is inconsistent with the earlier presuppositions. It makes man part of the machine. Valid human reason has become impossible. What passes for human reason is on this view the product of a non-intelligent machine which

5. W. Grainge Clarke, 'An Investigation into the Nature and Structure of Science as it Affects Christian Apologetics' (Master of Arts thesis, Pacific College of Graduate Studies in association with William Carey International University), 1984.

6. Francis A. Schaeffer, *Escape from Reason*, Leicester, Inter-Varsity Press, p.36, 1968.

7. *ibid.* p.36.

itself is only the product of matter-energy plus time plus chance. 'Unless human reasoning is valid', states C. S. Lewis,⁸ 'no science can be true'. The change in the world-view has undermined the presuppositions that alone make science, and indeed all knowledge, possible.

The influence of the world-view is not limited to its effect upon the presuppositions of knowledge. It determines how the data are interpreted and what theories are acceptable. The classical view of science, developed by John Stuart Mill,⁹ is that scientific laws and theories are based upon empirical data by the logical process of induction. These theories and laws are then tested by deduction. This view has received a severe set-back since the publication of Popper's *The Logic of Scientific Discovery*. Popper claims that not only are theories and laws not formed by induction, but that the scientific observations themselves are theory-dependent and are reported in theory-dependent language. Indeed Popper says in regard to such observation statements (which he calls basic statements) 'Basic statements are accepted as the result of a decision or agreement, and to that extent are conventions.'¹⁰ If this is true then the decisions cannot be totally objective. Thus there is reason to suspect that these decisions could be influenced by the world-view of those who make them.

Theories can never, on Popper's view, be verified, but good scientific theories must expose themselves to the risk of falsification, without ever being actually falsified. However As Chalmers¹¹ points out, because observation statements are fallible,

Theories cannot be conclusively falsified because the observation statements that form the basis for the falsification may themselves prove to be false in the light of later developments.

If this is true how can competing theories be evaluated? The conventional answer would be to apply Occam's Razor, and so use the principle of simplicity, but even here there is a subjective element. Ultimately the fate of theories also rests on decisions of the scientific community rather than upon totally objective observation and experiment. Popper concludes, "Thus it is *decisions* which settle

8. C. S. Lewis, *Miracles*, London, Geoffrey Bles, p.26, 1947.

9. John Stuart Mill, 'A System of Logic: Ratiocinative and Inductive, London. Reprinted in J. J. Kockelmans (Ed.) *Philosophy of Science*, The Historical Background, New York, Free Press, 1968.

10. K. R. Popper, *The Logic of Scientific Discovery*, Revised Edition, London, Hutchins, p.106, 1968.

11. A. F. Chalmers, *What is This Thing Called Science*, St. Lucia, University of Queensland Press, p.60, 1978.

the fate of theories.¹² For him the decision affects the acceptance of *singular* statements against which the theory can be tested, rather than the universal statement to which the conventionalist would apply the process of decision. On either view the ultimate basis of these decisions must depend, to a considerable degree, upon the usually unstated, world-view of the scientific community.

The danger of overstating the case must be avoided. Theories are a very important aspect of science. Many theories (for example, the Kinetic Molecular theory of gases) explain so many phenomena it would be strange if they were not a reasonably close approximation to reality.

The materialistic world-view, that all that exists is a product of matter-energy plus time plus chance is the present dominant world-view in biological circles. It is accompanied by the presupposition that the universe is a closed system. It must then follow that any theory of origins that involves the postulation of an external Intelligence *must* be rejected, not because it has been disproved, but because it is unacceptable to the world-view that is prevalent in much of the scientific community. On the other hand a theory that attempts to explain everything in terms of matter-energy plus time plus chance, as does the New-Darwinian theory of evolution, will be judged to be acceptable providing this is the only available alternative to a Theistic view, even though it may contain a number of yet unanswered problems. Thus, for reasons that are determined more by the world-view than by any objective evidence, the scientific world is forced to support a very mechanistic form of evolution. This is despite the fact that this atheistic conclusion makes nonsense of the very presuppositions that alone make any science possible. This is clearly a recipe for self-destruction by science, leaving only technology. Indeed there is already evidence that this is happening. Kuhn's¹³ disregard for any idea that science is progressing toward ultimate truth may well be an expression of this breakdown. Modern science owes its origin to the Christian world-view, and is itself a Christian pursuit. Further there are good reasons to believe that it cannot long continue to exist in a society whose world-view is opposed to the world-view that gave it birth.

On the other hand, the creation scientists' rejection of huge amounts of scientific data because they do not immediately fit a very limited and specialised understanding of what is meant by the Christian concept of creation is equally disastrous for their position.

12. K. R. Popper, *op. cit.*, p.108.

13. Thomas S. Kuhn, *The Structure of Scientific Revolutions*, Chicago, Chicago University Press, p.171, 1974.

The creation scientists usually insist on a literal seven days of twenty-four hours for creation. Though they rarely state anything in regard to mechanism, the impression is given that little or no mechanism was involved.

The concept of creation

It is imperative that the Christian concept of creation be expressed in a more adequate manner. Creation *ex nihilo* involves the concept that all things, including not only matter-energy but also space and time, have their origin in the creative activity of the Transcendent Infinite-Personal Mind that we call God. Hence *all* mechanisms are His work. It is less true to say that God uses mechanisms to create than to state that He creates mechanisms to effect His purposes. Since time is part of the creation, God cannot be limited by it. Because of this, and the problem of giving an objective meaning to time during the period of creation, it may be that the use of seven days in Genesis to present God's creative activity is best viewed either as an accommodation, by God, to the limitations of man's mind or some literary device, the nature of which is still open to further research. What can be asserted is that the God who created space and time is not limited by either, does not exist in either, but is Sovereign Lord of both.¹⁴

The creation science school has problems very similar to their opponents. Their world-view is so limited that they feel obliged to reject any view of origins that does not square with a very restricted exegesis of Genesis. Hence it is the existence of two opposing world-views that is at the base of the argument.

Opposing world-views in relation to the data

Neither the materialistic world-view nor the rather limited interpretation of the Christian world-view of the creation scientists permits an hypothesis that does justice to all the available data. The creation science position has to be defended by an immense amount of special pleading. This can easily be illustrated by their fervent defence of the young earth theory. Astronomical data indicate that some other galaxies exist at distances of thousands of millions of light years from the earth. In order to accommodate this to a date for creation of the order of 4000 B.C., the velocity of light is presumed to have been very much faster in the past. There is no good evidence that the velocity of light has changed from near infinity to its present value in the last 6000 years. The other implications of this view as it

14. Exodus 3:14, Psalm 90:2, 4, John 8:58, 2 Peter 3:8.

affects the mass-energy conversion, quantum mechanics etc. are enormous. Several writers have shown^{15, 16, 17} that the attempt to explain most of the sedimentary deposits of the world in terms of Noah's flood is almost impossible to maintain in the light of the field evidence.

The energy-matter, plus time plus chance world-view of the materialistic scientists presents even more devastating problems. As has already been discussed, it removes the only ground for the reasonableness of the presuppositions that lay behind scientific knowledge. In addition it necessitates arguments that approach special pleading in order to defend a number of observed phenomena, including the very numerous cases of convergent evolution that are known to occur. The convergence in eye-structure in the octopus and the vertebrates is an outstanding example. There is no possibility of a common ancestor possessing this structure on any evolutionary theory. Yet, if they had occurred in animals belonging to the same class they would have been considered to have been homologous. The occurrence of trachea tubes in insects, millipedes, centipedes, mites and ticks, phalangids, and certain, but not all, families of spiders would again appear to involve, possibly several cases of convergence. Any common Arthropod ancestor of all these groups would have almost certainly not have been air-breathing. The convergence in the structure of the head, including the teeth, between the marsupial *Thylacinus cynocephalus* and the dog is quite remarkable. Again no common ancestor could have possessed these features. Convergence is usually explained in terms of selection pressure determined by the ecology. This is a possibility if the necessary mutations are available for selection in both cases. However, as convergence is not an unusual phenomenon and some of the structures concerned are very complex, the probability of it happening so often by a purely chance mechanism is minute and would be better explained if the possibility of a Creative Intelligence behind any mechanism were an acceptable one.

There is increasing evidence for the existence of a large number of other types of phenomena, both from Christian experience and even from anti-Christian sources, that cannot adequately be accounted for by the current materialist world-view. The only responses permitted by this world-view are either to deny the existence of these

15. Bernard Ramm, *The Christian View of Science and Scripture*, London, The Paternoster Press, p.126-129, 1955.

16. A. G. Fraser, 'The Age of the Earth', in Derek Burke (Ed.) *Creation and Evolution*, Leicester, Inter-Varsity Press, pp.17-41, 1985.

17. See also the report of the debate in *Faith and Thought: Journal of the Victoria Institute*, 1985, 111, pp.81-84.

phenomena or, where possible, to attribute the supposed evidence to mistaken observation or the ravings of an unsound mind.

An approach to the present situation

The opposing world-views of the contending parties prevent a careful evaluation of each other's positions. It also makes it unlikely that any light will emerge as this issue is debated in the press and elsewhere. However there is no valid reason why a more comprehensive Christian world-view should not make possible a general integration of all available data. Some of the main aspects of such an approach must now be considered.

Scientific knowledge, while of considerable significance and generally reliable, is incomplete and by its very nature, is in constant change. Theological truth, if it is to be truth at all, must be unchanging. However while Scripture is the inerrant word of God, our present exegesis of it is neither inerrant nor complete. Thus any attempt to correlate existing scientific knowledge and Scripture is at best a temporary solution to the problem because it must be limited in nature and subject to change as new research is undertaken in both areas.

While it is never possible to have an adequate concept of God, it is most important to have a concept of God that is the least inadequate available. The mental concepts that gave rise to the depiction of God as a Super Man, found for example in the illustration of Genesis 1 in a sixteenth-century Bible printed in Venice,¹⁸ must be totally rejected. As has already been asserted, the Creator of all things is not limited by his creation. Time and space, mechanisms and all the properties of matter are His creation. Thus He is totally independent of them. If absolute chance exists, even at the sub-atomic level, and this is still extremely doubtful, this too must be viewed as God's creation. The chance nature of certain biological processes, including the mutation process, is best understood in the light of Donald MacKay's statement: "Chance" in science is not the name of a thing or agent, least of all of a *cause* or *source* of anything; it stands for the *absence* of an assignable cause'.¹⁹ It can never be justly invoked as a mechanism to eliminate Divine activity from any event, as some biologists have attempted to do.

If the materialist world-view is correct, there exists no Intelligence

¹⁸ Reproduced in Alvin Nason and Robert L. Dehaan, *The Biological World*, New York, John Wiley and Sons, p.634, 1973.

¹⁹ Donald M. MacKay, *Science, Chance and Providence*, Oxford, Oxford University Press, p.33-34, 1978.

behind the universe, hence there is no ground to assume that rational thought is possible or that the concept of the uniformity of nature is anything more than wishful thinking. That is, all knowledge including scientific knowledge is impossible. Science is without adequate foundation and must eventually collapse, because it was the Hebrew-Christian concept of an infinite personal Creator that provided the world-view that made modern science possible. If science is to survive, in the long term, a Theistic world-view is essential.

If the starting point for the reconciliation is an evolutionary approach and an attempt is made to fit God in, then there is a great danger of a 'God of the Gaps' apologetic. This will do justice to neither science nor Scripture. If, on the other hand, the starting point is an Infinite Personal Creator, who made *all* things including time and space and *all* mechanisms, then there is no reason why He should not have used a large variety of mechanisms, including not only very extensive evolutionary processes, but perhaps also what we would describe as genetic engineering and cloning to fulfil His creative purposes. Man, who was created in the image of God, uses devices to carry out his plans, why should not God? It is not unreasonable to assume that anything man can do, God can do better. Today men prepare elaborate computer programmes to execute their purposes. The programmers are responsible in a legal and moral sense for the outcome of the programme. Thus the programme is merely another aspect of their activity. So it would be if God carries out His activities by creating any mechanism whatever. In Hebrew thought God is seen as directly responsible for the outcome even when the mechanisms are clear, and may even involve man.²⁰

Creation is not an alternative theory to evolution. The concept of creation in no way forms part of the content of natural science, nor should it. Creation is the base of all knowledge because it alone provides the justification for a number of assumptions, otherwise absurd, including such basic assumptions as: the human mind is capable of rational thought, and that the universe is orderly and to some extent comprehensible. Creation stands in its own right, even if extensive evolution has occurred. C. S. Lewis states, '*no thought is valid if it can be fully explained as the result of irrational causes.*'²¹ Therefore for any scientific theory, including the theory of evolution, to be valid, the human mind must be capable of rational thought. This can only be so if the mind is itself ultimately the product of an Intelligent Creator.

While no complete simple solution to the problem of the relationship

20. 1 Kings 12:24.

21. *op. cit.*, p.27.

between God's revelation in Scripture and His work in the natural world is to be expected by man with his limited knowledge, nevertheless there is no necessity to dismiss the Scriptures as the materialists do, or the scientific data as the creation scientists are in danger of doing. Because of the pervading nature of the opposing world-views it must be expected that this approach that sees creation as a basic *sine qua non* of all knowledge while leaving open the possibility of an evolutionary mechanism as an important part of the action of creation will be rejected by both sides. However this rejection will be on the basis of the respective world-views, and not because of the evidence, but in spite of it.

It remains true:

Great are the works of the LORD,
they are pondered by all who delight in them.

Psalms 111:2 N.I.V.