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# A TRANSCENDENT GOD IN EINSTEIN'S UNIVERSE

Many will have seen the television documentary, *Einstein's Universe*, to celebrate the centenary of the birth of Albert Einstein. The programme attempted to show the nature and implications of the theory of relativity. In so doing it opened the eyes of many to see a completely new kind of universe - a universe vastly different from the Newtonian picture many of us were taught at school. I believe that the intricacies of relativity force upon us a greater sense of awe at God's creation: the Einsteinian universe is far more awe inspiring than its Newtownian counterpart. But the further question then arises: in the face of Einstein's universe what is God like? It will be my purpose to begin to answer this question.

## *Einstein's Universe*

If we look up into the sky on a starry night, all seems tranquil and still. In actual fact, however, our universe is far from tranquil and certainly not still. In the 1920s and 1930s Edwin Hubble's observations in America showed that the universe is expanding and expanding uniformally, the speed of the various galaxies being in proportion to their distance. This is what we would expect to find if all the galaxies had started off from one place and then moved apart. In 1965 a further discovery was made which rendered the Continuous Creation theory of Fred Hoyle and others obsolete: it established the veracity of the Big Bang theory. The discovery was radiation noise filling the universe. The level of this radiation is now surmised to be the result of the Big Bang fifteen to twenty billion years ago.

If the beginning of our universe is established, its future is uncertain. We know that the speed of the various galaxies hurtling through space as a result of the Big Bang is gradually slowing down. Our future must take one of three

forms: (1) *An Open Universe*, where it continues to expand for ever; (2) *A Closed Universe*, where at a critical point the universe ceases to expand and begins to contract, eventually coming to a Big Crunch - the implosive opposite of the Big Bang; (3) *A Pulsating Universe*, where the Big Crunch is avoided and contracting gives way to expansion again, and so on, possibly *ad infinitum*.[1]

Light bends towards objects because it is affected by gravity and a laser beam fired in outer space at the earth's horizon would drop by one third of an inch in 4,000 miles before rushing on into space. The bending of light would be much more apparent in the region of a black hole; close to the black hole the curving of a path of light is much more marked and we should be able to see round corners. Objects which were behind the black hole (and therefore eclipsed by it) would in fact be visible to one side of it because of the bending of light. It is because of this that space is now said to be warped. A model of space made from a rubber sheet can provide an illustration. The sheet is stretched flat like a trampoline and weights are then attatched to it to represent stars, planets or black holes. The weights cause the rubber to warp around them in the same way that space itself warps around a massive object. The warped sheet is then said to be a two-dimensional representation of three dimensional space, the indentations in the sheet symbolising the warping of space.

But it is not only space that is warped; time also is warped by the effect of gravity. Thus, atomic clocks at ground level run slower by a very small amount than clocks above ground level. Clocks on the verge of a black hole will run even slower because of the enormous effect of gravity. There is a warping, then, of both space and time in the Einsteinian universe.

It is natural to picture the Big Bang of creation as being similar to the explosion of a bomb, with fragments hurtling out into a pre-existing space. In fact it is not quite like that. At the Big Bang the universe began to expand, but it began to expand not *in* space and time but *as* space and time. "There is no space outside the universe, and

no time either... Time began with the Big Bang which created it and will end with the Big Crunch. Space too is created and defined by the contents of the universe".[2] Space and time only exist *within* our expanding universe; the universe does not expand into an already existing space and time.

Finally, a few words about time, which is dependent upon the effects of gravity and upon speed. I have already mentioned how atomic clocks on the verge of a black hole will run slower than clocks on earth. Under strong gravity brain impulses will pass less rapidly and hearts will beat more slowly. If a spaceman were to orbit around the edge of a black hole without its enormous gravity sucking him into it, his clocks (and his body) would run very slowly as judged by a distant earthbound observer. The astronaut himself, of course, would not notice this slowing down because his own biological systems would also be running slowly. From his point of view he would be 'running at normal speed', but events on the earth would seem to be racing by. Because of his own slowing down on the verge of the black hole he would receive on his reckoning daily news bulletins from earth once every ninety seconds. His friends on earth however, would receive on their reckoning his daily reports once every three years, and a ten minute greeting would take a week to record.

Speed, too, has an effect on time. If I could travel at the speed of light time would stop. If we imagined that there were two twin brothers, Anthony and Graham, and that Graham was sent out into space at the speed of light for two years, on return Graham would find that his brother had grown older by two years whilst he had remained the same age. This is because atoms run more slowly when travelling at speed: at the speed of light they remain static.[3]

*A Transcendent God*

The first thing that must be said is that God stands in a creative relationship to this Einsteinian universe. He cannot be contained within it, for that would involve his being bounded by both space and time. God is quite literally outside of space and time, because in creation he created them alongside matter and motion. God is quite other than in

space, matter, time or motion. As creator of each of these four he stands outside of them in the same way as a craftsman stands external to what he is making. John Robinson was certainly right when he said that we must reject the spatial concept of a God 'out there'. But he was wrong when he replaced that notion with a God described as 'the ground of our being'. That was to replace one spatial and temporal concept with another, for the 'ground of our being' must be something within the confines of space and time.[4] As such it must be rejected as an inadequate picture of God. God must be first and foremost external to the created structures of the universe. He must be a transcendent God - a God who is wholly other than space-time and who is wholly other than matter and motion.

God is not spatially outside of our universe because that would put him in a spatial relationship to it, and space is, of course, a characteristic only obtainable *within* it. There cannot be a space outside the universe. Instead, we must say that God transcends space. He is outside of it but not spatially outside of it. Similarly with time: God is not before or after time because 'before' and 'after' are themselves time concepts. God transcends time: he is outside of it but not temporally outside of it. H.P. Owen argues similarly, although for different reasons: "If God were temporal (albeit endlessly so) his present would be limited by his past and his future... If God were temporal his essence would not be identical with existence; for there would always be forms of being that he has lost, and forms that he is yet to achieve... Therefore if God is a necessary being he must exist in a timeless present".[5]
God must be timeless insofar as he is outside of time. That is what we mean when we say that God is infinite: we do not mean, as Newton supposed, that God is contained within infinite time and infinite space. We mean that God is wholly other than space-time because he stands in a creative relationship to it. He is non-finite. Space and time are themselves creaturely realities in a created universe.

If God is seen to be enclosed within the created structures of space and time, then certain theological doctrines become problematic. Once God is released from these

and is seen as transcendent the problems wither away. Firstly, there is the unity of God as Trinity. Realities within the structures of space and time become separated when divided. Within the Einsteinian universe, therefore, the notion of God as being Father, Son and Holy Spirit and yet as being one God is incomprehensible. Once it is realised, however, that God is transcendent to the structures of the universe, then the concept of one God and three persons is seen to be problematic only from within. From inside our space-time we cannot comprehend what this means. But when we realise that God is transcendent then we can apprehend that God can be three persons but remain one God. In the same way the Son's generation from the Father is best apprehended when it is realised that the generation takes place outside of time: it is not a temporal event. It was Origen who first managed to construct a theological description of the relationship of the Son to the Father in a way that enabled Christians to penetrate beyond the created realm to an apprehension of the divine. He described the Son as being "eternally generated" by the Father. This placed the generation outside of time.

Secondly, there is the doctrine of the Incarnation. If we start with Newton's concept of God as being infinite space and infinite time, the notion of the Incarnation becomes meaningless. As Torrance puts it, "If God Himself is the infinite Container of all things He can no more become incarnate than a box can become one of the several objects that it contains".[6] Any immanent theology which has God bound by space and time must run up against similar problems. But once God is placed in a creative relationship to the universe the concept of the Incarnation is made understandable. Once God is seen to be outside of space and time then we can glimpse how it is possible for the Son of God to enter our human space and become man without thereby leaving God's 'place' and without leaving the universe devoid of his presence and rule. It is possible because God's relationship to the created world is not a spatial or temporal one. It was this problem that the Christians of the third and fourth centuries had to grapple with in the Monarchic heresies through to the controversy with Arius. How was the incarnate Son to be described in relation to the

pre-existent Word and to the Father? Those who stressed the power and glory of God and yet put him in a spatial and temporal relationship to the universe had to end up with a Christ defined as being less than God. Those who stressed the reality of the Incarnation had to have the Father suffering in the Son. Once God is released to be transcendent to our space-time structures, however, the problem melts away leaving us with an Athanasian Christ.[7]

If our transcendent God has become incarnate in Christ, then it is only through the incarnate Christ that we have a way to apprehend transcendence. As Torrance puts it, the Incarnation "binds us to space and time in all our relations with Him".[8] There is no other way through to transcendence apart from Jesus Christ. All other roads to God and to transcendence are 'no through roads' by virtue of the Incarnation. Only through the incarnate Christ is there a way to the transcendent God, and only through theological language rooted in Christ can there be a meaningful language about transcendence. If Christ is God incarnate, then only through a language rooted in and centred on Christ can we pass from our own universe to apprehend our transcendent God.

*FOOTNOTES*

1. Nigel Calder, who scripted the T.V. programme and subsequently wrote *Einstein's Universe*, B.B.C, 1979, maintains that research cannot yet conclude which of the three forms is correct (ch. 19). Steven Weinberg, however, maintains that because the deceleration of the galaxies is fairly small, they will move at more than escape velocity. The universe will therefore expand and continue to do so for ever. Cf. S. Weinberg, *The First Three Minutes*, A. Deutsch, London, 1977, 34ff.

2. N. Calder, *Ibid.*, 145.

3. For an excellent exposition of Einstein's discovery of the effect of speed upon time cf. J. Bronowski, *The Ascent of Man*, B.B.C, London, 1973, 245ff.

4. More recently Sir Alister Hardy in a biological approach seems to have argued for a similar picture of God internal to space-time structures. Cf. A. Hardy, *The Spiritual Nature of Man*, O.U.P., London, 1979, 10ff, 134ff.

5. H.P. Owen, *Concepts of Deity*, Macmillan, London, 1971, 20f.

6. T.F. Torrance, *Space, Time and Incarnation*, OUP, London, 1969, 39.

7. The same problem of understanding arises at the 'other end' of the life of Christ, viz. the resurrection and ascension. Cf. T.F. Torrance, *Space, Time and Resurrection*, Handsel, Edinburgh, 1976, esp. 129f.

8. T.F. Torrance, *Space, Time and Incarnation*, 67.

# HOMOSEXUALITY: ABSTRACT

A new and controversial contribution to the debate on homosexuality is to be found in two recent publications by Dr. Elizabeth R. Moberly of Clare College, Cambridge, England: PSYCHOGENESIS (The Early Development of Gender Identity), Routledge & Kegan Paul; London, Boston, Melbourne; 1983. This is a major psychoanalytic study of gender identity, presenting a detailed discussion of transsexualism and homosexuality in both the male and the female. The ethical and theological conclusions to be drawn from PSYCHOGENESIS are presented in HOMOSEXUALITY: A NEW CHRISTIAN ETHIC, James Clark, Cambridge, 1983. *

The traditional distinction between the homosexual condition and homosexual activity is reassessed. What is the type of personality structure that underlies homosexual behaviour? It is suggested that the homosexual - whether male or female - has been unable to meet the normal developmental need for attachment to the parent *of the same sex*. Due to some early difficulty in relationship, the child's attachment-need is repressed. If this need later emerges from repression, it seeks fulfilment through the medium of a same-sex, or 'homosexual', relationship. What the homosexual seeks is the fulfilment of attachment needs which are a *normal* part of the developmental process, but which have *abnormally* been left unmet in the process of growth. Such needs may be met independently of sexual expression.

Where same-sex attachment-needs have been left unfulfilled from a very early age, the process of acquiring a same-sex identity has been radically checked. Quite logically, such persons do not experience themselves as members of their own anatomic sex. The transsexual's sense of gender-dislocation stems from very early repression of the need for attachment to the parent of the same sex. In the majority of homosexuals, unmet attachment needs are less marked. However, transsexualism and homosexuality have essentially the same psychodynamic structure, differing in degree rather than in kind.

Homosexuality involves both a state of incompletion and - most importantly - an *inherent* drive towards completion. The capacity for same-sex love is *itself* the attempt to restore attachment, and hence to make up for missing growth. It is not same-sex love needs that are pathological, but rather their lack of fulfilment. Increased opposite-sex contact can do nothing to fulfil same-sex deficits. For this reason, most therapy to date has been misdirected and essentially counter-therapeutic. The legitimate developmental needs involved in the homosexual condition can only be fulfilled in a relationship with a member of the same sex. However, as pertaining to the pre-adult developmental process, such needs are most appropriately fulfilled without sexual activity.

The complementarity of male and female presupposes the completion of the developmental process. It is illogical to expect such complementarity where normal and valid developmental needs have not yet been fulfilled. It is a mistake to try and cure people of legitimate needs. To block the capacity from same-sex love, as distinct from its sexual expression, is to block the very process of healing. The healing of same-sex developmental deficits takes place precisely through meeting the need for same-sex love, and through resolving an underlying ambivalence towards members of the same sex.

The homosexual condition involving certain developmental deficits, is not culpable as such, but rather requires the fulfilment of these unmet needs. Any therapy undertaken should be gender-specific, i.e. with a therapist of the same sex, and with a therapeutic focus on same-sex - not opposite-sex - relationships. The traditional affirmation that the homosexual's developmental needs should not be fulfilled *sexually* must never again be mistaken for a denial fo the legitimacy of such needs in themselves.

* James Clarke publications are available from:

Attic Press Inc., P.O. Box 1156, Greenwood, South Carolina 29646, USA.

Canterbury House, 760 Somerset St W, Ottawa, Ontario, K1R 6P9, Canada.
Cambridge University Press, 296 Beaconsfield Parade, Middle Park, Melbourne 3206.