

On "Creation & Change" (Douglas F. Kelly, 1997)

© C.Jeynes, Guildford, 27th April 2012 (rev. 7th June 2012)

Douglas Kelly is a professor of systematic theology at a Reformed (Calvinist) seminary in North Carolina (USA). He took his PhD from Edinburgh University and has recently written the first volume of his systematic theology (Mentor, 2009). "Creation & Change" is a wide-ranging commentary on the Creation stories of Genesis, and in particular, on the factual content of these stories.

Kelly refers several times to St. Augustine of Hippo, who wrote *De Genesi ad litteram* ("On the factual reading of the book of Genesis") c. AD410. Augustine's view of a proper hermeneutic is widely acknowledged as praiseworthy: especially in his insistence on extreme prudence in determining the meaning of Scripture. He says: *We must be on our guard against giving interpretations which are hazardous or opposed to science, and so exposing the word of God to the ridicule of unbelievers (De Genesi ad litteram: I:19)*. In this review of Kelly's book I shall be relying on extended quotes from Augustine to make several of my critical points. Augustine also was, even in the fourth century, very familiar with ignorant people saying foolish things about the world with alleged proofs from Scripture, although Scripture in fact did not say what they said it did.

Kelly argues at length in his book that the world really was made in six "twenty-four hour" days, or "normal solar" days, despite the fact that the age of the Universe is known to be approximately just over 13 billion years, and the age of the earth something over four billion years. He claims that this is the way the text must be interpreted, implicitly acknowledging both that the text does not mention "hours" and that taking the day as a "normal solar day" is literally nonsensical for at least the first half of the first Creation account (Genesis 1:1-13) since the sun was not made until the fourth day. Augustine opens by acknowledging that Scripture certainly does speak of factual things, and we should not assume that it intends only metaphorical or spiritual meanings:

In the case of a narrative of events, the question arises as to whether everything must be taken according to the figurative sense only, or whether it must be expounded and defended also as a faithful record of what happened. No Christian will dare say that the narrative must not be taken in a figurative sense. For St. Paul says: "Now all these things that happened to them were symbolic" [1Cor.10:11] And he explains the statement in Genesis, "And they shall be two in one flesh" [Gen.2:24], as a great mystery in reference to Christ and to the Church [Eph.5:31ff].
Augustine, *De Genesi ad litteram*, I:1f.

But after a discussion of the ambiguity of the text, on the subject of trying to determine "what actually happened", Augustine continues:

In matters that are obscure and far beyond our vision, even in such as we may find treated in Holy Scripture, different interpretations are sometimes possible without prejudice to the faith we have received. In such a case, we should not rush in headlong and so firmly take our stand on one side that, if further progress in the search of truth justly undermines this position, we too fall with it. That would be to battle not for the teaching of Holy Scripture but for our own, wishing its teaching to conform to ours, whereas we ought to wish ours to conform to that of Sacred Scripture.

(Augustine, *De Genesi ad litteram*, I:37)

Scripture was written under the inspiration of the Holy Spirit, and we force it to conform to the way we are used to thinking about things if we are not willing to read it closely enough to be able to see what it is careful *not* to say. Do we want to be "conformed to the image of his son" (Rom.8:29), or are we determined to conform his word to our prejudices?

Augustine makes some very helpful comments on how to interpret "the mind of the sacred writer", starting from his previous demonstration of how ambiguous the text really is:

Let us suppose that in explaining [a text] one man thinks [one thing] and another [another] ... there will be nothing in such [suppositions] contrary to the faith until unerring truth gives the lie to [one of them]. And if that should happen, this teaching was never in Holy Scripture but was an opinion proposed by man in his ignorance. On the other hand, if reason should prove that this opinion is unquestionably true, it will still be uncertain whether this sense was intended by the sacred writer when he used the words quoted above, or whether he meant something else no less true. ... On the other hand, if the tenor of the words of Scripture does not militate against our taking this teaching as the mind of the writer, we shall still have to enquire whether he could not have meant something else besides. And if we find that he could have meant something else also, it will not be clear which of the two meanings he intended. ...

(Augustine, *De Genesi ad litteram*, I:38)

Scripture could be interpreted to mean this, or possibly that. How do we choose between these? If it turns out that a particular interpretation of Scripture is actually false (as in the case where the Roman Church asserted that Copernicus and Galileo were wrong about the earth orbiting the sun), then that is a demonstration that the Scripture did not actually say what was alleged. But, says Augustine with his characteristic subtlety, if the interpretation is proved true, that *still* does not mean that that is what the text says. And even if we are sure that the writer intends this meaning, he may also simultaneously intend a further meaning!

Note here that Augustine does not allow that Scripture may be proved wrong, for in that case our faith crumbles into ashes. Of course, there are many ways that Scripture could in principle be wrong – our faith really is *falsifiable* (in a Popperian sense). My contention is that, although Scripture is indeed falsifiable, it has never been falsified. But we must read what Scripture *says*, and not impose our own (mis)understandings onto the text!

The Genesis Creation stories are speaking about the very first things, about times before even the first things existed, and about times when there was no language to speak about them (except of course the divine Word)! We cannot presume that the normal meanings of words applies to these times: it is very clear that Moses knows this and is using words very carefully to take this basic problem of cosmogony into account. To speak of six "twenty-four hour days" for the creation of the world is to speak anachronistically, literally; and to assert that this is what Moses intended is to ignore the text and insult Moses.

Moses specifically avoided speaking of "solar days" to avoid deifying the sun: this is why the sun and moon were created on the fourth day, and why they were not even named! All the surrounding nations worshipped the sun and moon, but Moses is saying very clearly that they are only creatures of God. He is also saying very clearly that *time itself* is God's creature, and is *not* ruled by the sun since time, and the measure of time, precedes the sun. God is King, not the sun! It is God who has the measure of his creation, not the sun!

We have lost the force of this today, where we can monitor the length of the solar day by independent means, but even so recently as 1930 time was defined by physicists with reference to *stellar* time. Today we use atomic clocks that are sensitive to relativistic dilation and contraction effects that would have been unimaginable to Moses (and are still unimaginable to most people today!). God is "Maker of heaven and earth, and of all things visible and invisible", including time itself, and the way he actually chose to put things together is most astonishingly amazing, and would be completely impossible to imagine without the experimental knowledge we have today. Nevertheless, Moses' account of the first things can still be treated seriously today: it has not dated – itself a very remarkable indicator of literary quality. There is no other account of Creation, ancient or modern, of which this can be said; underlining the unique importance of the Biblical account.

Augustine is withering in his scorn for those Christians who "talk nonsense to unbelievers", and sadly, this continues to apply with equal force today both to Kelly and to those others who insist that Kelly's account is faithful to Scripture:

Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbit of the stars and even their size and relative positions, about the predictable eclipses of the sun and moon, the cycles of the years and the seasons, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience. Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn.

The shame is not so much that an ignorant individual is derided, but that people outside the household of the faith think our sacred writers held such opinions, and, to the great loss of those for whose salvation we toil, the writers of our Scripture are criticized and rejected as unlearned men. If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven, when they think their pages are full of falsehoods on facts which they themselves have learnt from experience and the light of reason?

Reckless and incompetent expounders of holy Scripture bring untold trouble and sorrow on their wiser brethren when they are caught in one of their mischievous false opinions and are taken to task by those who are not bound by the authority of our sacred books. For then, to defend their utterly foolish and obviously untrue statements, they will try to call upon Holy Scripture for proof and even recite from memory many passages which they think support their position, although "they understand neither what they say nor the things about which they make assertion" [1Tim.1:7].

(Augustine, *De Genesi ad litteram*, I:39)

Kelly makes a play of erudition, citing many authors apart from Augustine. Unfortunately, as with Augustine, he shows little evidence of actually understanding either what these authors say or their significance. Most curiously, he cites Thomas Kuhn's seminal *The Structure of Scientific Revolutions* (1962), and proceeds to propose a "paradigm change" in physics which revisits the constancy of the speed of light! He wants the speed of light to change so that his interpretation of the text can be harmonised with observation, and accompanies his discussion with a display of fallacious logic that can only be characterised as ridiculous. In any case, the suggestion that a theologian can stimulate a paradigm change in physics by reference to a text some three thousand years old simply demonstrates that the theologian does not understand how paradigm changes in physics really work!

Is the speed of light constant? As a matter of fact, Paul Dirac was the first to suggest that the "constants" of nature are not necessarily constant (P.A.M. Dirac, "A new basis for cosmology", *Proc. Roy. Soc.* **A165**, 1938, 199-208), and there has been significant attention paid to this since. A variety of subtle ways of determining the ancient values of the "constants of nature" have been found, with one recent set of measurements of the value of the fine structure constant (approximately 1/137) from 2000 million years ago (Thibault Damour, Freeman Dyson, The Oklo bound on the time variation of the fine-structure constant revisited, *Nucl.Phys.* B480 (1996) 37-54, available online at [arXiv:hep-ph/9606486v1](https://arxiv.org/abs/hep-ph/9606486v1)). At this time a natural fission reactor (moderated by water) was operating in the ore body of the Oklo uranium mine in Gabon, West Africa. Note that the date of the reactor operation is determined with an uncertainty of about 10%, and the value of the fine structure constant is determined at about one part in 10 million. Note also that the argument is rather complicated. Note finally that the fine structure constant is dimensionless and involves the charge on the electron, Planck's constant and the speed of light (see the extended discussion in M. J. Duff, *Comment on time-variation of fundamental constants*, 2004, [arXiv:hep-th/0208093v3](https://arxiv.org/abs/hep-th/0208093v3)). It is the *dimensionless* constants that are fundamental to representing reality: the value of dimensioned constants (like the speed of light) is subject to human convention and do not themselves have a cosmic meaning.

Are discussions such as that sketched in the last paragraph germane to discussions about the meaning of Scripture? I would say, not really. Very few people are deeply affected by the actual value of the speed of light, and very few others care very much about such arcane matters. It is certainly not necessary for salvation! How could the ancient inspired writers be held to have implied opinions about such things? Augustine's sensible strictures should be recalled:

If [people outside the household of the faith] find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven, when they think their pages are full of falsehoods on facts which they themselves have learnt from experience and the light of reason? Augustine (*ibid*)

Kelly's faux-erudition is suspect from the start. On his very first page he introduces an obscure Austrian writer (Kuehnelt-Leddihn) with breathless exaggeration as "possibly the century's greatest scholar" of liberty and totalitarianism! Leaving aside the hyperbole, one wonders how much Kelly's politics is obtruding: Kuehnelt-Leddihn is influential in the American conservative movement, describing himself as on the "extreme right"; in the book cited he apparently treats Pol Pot and the Marquis de Sade as "leftists"!

On the second page Kelly's judgement is again questionable: he introduces an obscure Reformation scholar Wolfgang Capito for reasons I cannot fathom, and continues to cite him throughout the book. Capito's *Hexameron* (1536) is an essay about the six days of Creation, but why should this piece still be interesting to us today? Capito was not a scholar of much importance even in the sixteenth century, and his views on Creation theology are not likely to contribute anything of significance today. Kelly even gives Capito's original Latin (in footnotes), even where most of the quote consists of (slightly modified) clauses from the Nicene Creed!

Kelly also criticises William of Ockham (an important scholastic theologian of the fourteenth century) for his nominalism, making no attempt to explain the intricacies of this most arcane of scholastic debates, and falsely presenting nominalism as a sort of anticipation of post-modernism. Note that Albert of Saxony (c. 1320 – 1390) was strongly influenced by Ockham, and that Galileo read Albert's *Quaestiones de caelo et mundo*, which transmitted Jean Buridan's (c. 1300 – c. 1360) theory of impetus (whom Galileo quoted word for word). Buridan was a student of Ockham, and his physics was required reading when Copernicus was at University in Cracow and Albert was influential for both Copernicus and Kepler. These mediaeval philosophers were very important in the development of European science, which elsewhere Kelly (correctly) insists upon.

Both Ockham and Buridan were in continual trouble with the Roman Church specifically because their nominalist doctrine tended to undermine the Roman doctrine of the Eucharist; Galileo also implicitly (but very forcefully) attacked this doctrine in his *Assayer* (1623), with its new doctrine of matter. Galileo depended on the remarkable developments by the mediaeval physicists, which depended in turn on the freedom of the scholastic philosophers, whose glittering ability we are now starting again to recognise.

Kelly is correct to insist that science depends on faith, and indeed that the scientific enterprise itself is characteristically Christian in its foundations (although he states this clearly only in his "Technical Notes"). But he misunderstands the complexity and subtlety of the real history. It is a great pity that he only refers in passing to the great work of Michael Polanyi (*Personal Knowledge*, 1958) and Stanley Jaki (*Science and Creation*, 1974): these books deserve to be better known; indeed, I have myself abridged Jaki's book (<http://www.surrey.ac.uk/ati/ibc/files/Science&Creation.pdf>).

But Kelly is incorrect, in his discussion of the *literal* versus the *literary* reading of the text, to characterise this as a "revived nominalism". The mediaeval nominalists made a major contribution to the development of scientific (and logical) thinking, but the opposition of the literalists and the liberals is of an entirely different order.

Of course, all commentators on Holy Scripture from ancient times have acknowledged that the text usually has many layers of meaning, from the literal to the spiritual, and these coexist. It is dualist to say that any text should be read "literally", and *therefore* not in a "literary" way (or *vice versa*), as Kelly correctly points out. But who does that? And in any case, the problem is determining the "literal" meaning of this particular text (the early chapters of Genesis), given its *cosmogonical* context; a problem the inspired author is not only aware of but explicitly gives us tools to address, as I have said before. Moses carefully uses *literary* means to constrain the *literal* reading. Kelly's discussion comprehensively misses the point.

I draw a distinction between a *literal* reading (which all texts have, necessarily), and a *literalist* one. Jesus himself referred to the literal reading of the text when he said that "one jot or one tittle shall in no wise pass from the law" (Matt.5:18). It is fundamental to ask what the text actually says, and this is the force of the Reformers' cry of "*Sola Scriptura!*" But a *literalist* reading is always wrong. Characteristically: it *misreads* the text, ignoring the context; and it is *anachronistic*, falsely imposing modern meanings on the text. Kelly's reading is determinedly literalist.

To emphasise this point I just want to underline a ploy that Kelly uses as a cover for his literalist reading (perhaps unwittingly). He refers repeatedly to the "plain meaning" of the text. The unwary will swallow this propaganda without noticing that it begs the question of "what the text means". In very many cases the meaning of Scripture is indeed completely plain. Jesus was raised from the dead, and "If in this life only we have hope in Christ, we are of all men the miserablest. But now is Christ risen from the dead, and become the firstfruits of them that slept!" (1Cor.15:19f; although even in this brief text St. Paul has given us many puzzles!). But there can be no "plain meaning" where the text is referring to a time before the language of man was!

Kelly distinguishes "empirical science" (good) and "naturalistic science" (bad), where the latter "axiomatically cuts off any reference to the Transcendent" (p.23). This is a false distinction which lapses into nonsense. Science is necessarily "naturalistic" in the sense that it is the branch of knowledge concerned with reading the book of nature, a book which all men of faith right back to the golden age of Islamic science and before have acknowledged is open to everyone. Aquinas, in his systematic criticism of Aristotle, famously distinguished the Book of revelation (the Bible) which can be apprehended only in faith, and the book of nature which can be apprehended by anyone willing to look at God's world without prejudice and to think about it logically. The one Book needs special revelation to understand it, the other needs only common grace, for God "maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust"; (Matt.5:45). Even atheists can read the book of nature truly, in which case science cannot depend on an explicit appeal to God. Laplace is supposed to have told Napoleon "I have no need for that hypothesis" when he asked him why he hadn't mentioned God in his treatment of the secular variations of the orbits of Saturn and Jupiter. If a theory depends explicitly on the finger of God then it *per se* cannot be a *scientific* theory.

This is not to say that science is independent of faith, as Kelly correctly points out. He refers to Polanyi's book, *Personal Knowledge* (which we have already mentioned), but he clearly has not understood what Polanyi was saying: scientists depend on faith in a number of ways to do science, but this dependence is tacit and not explicit (Part II in Polanyi's book is called "The Tacit Component"). All scientific theories rest on prior assumptions, which effectively represent the philosophical outlook of the scientist and are not themselves scientific. Two important assumptions universally adopted to do science are: (a) the Universe is accessible to rationality, and (b) we are capable of rationally understanding it. There is a further assumption implicit in surviving from day to day, which is that we are capable of maintaining sanity. In Christian terms these are equivalent to (a) God is not capricious (he is rational), (b) he has made mankind in his own image (we are rational too), and (c) God loves us (we are capable of sanity since the Universe has meaning). There are many more ways in which scientists rely day-to-day on faith in one way or another (see Polanyi's book!). One ironic but crucially important observation is that every scientific paper that is written is itself a *supernatural* phenomenon – I say this since every paper is written for a *purpose*, and purpose cannot be considered a part of the *natural* world since there is no natural law we know of that expresses any sort of teleology.

Kelly's is a bad book. I was tempted to say "irredeemably" bad, but of course, man made "in the image of God" (Gen.1:27; 9:6; 2Cor.4:4) can never be called irredeemable, and nor should his works be so called. Kelly actually treats this foundational doctrine quite well, as he does a number of other topics, including the absolute sovereignty and primacy of God over his creation, the essential place of faith in epistemology, and the religious nature of materialism.

What do I believe? My views have been summarised as: "(i) he doesn't believe that Genesis 1 is history, but rather figurative, and therefore he doesn't believe the Bible means what it says in Genesis 1, and (ii) he believes in the secular cosmogony - Big Bang theory - which is based on naturalistic assumptions, which means that he has had to reject the obvious, common sense meaning of Genesis 1 and possibly other scriptures as well."

This summary traduces my views: it is wrong at every level! I absolutely believe what the Bible says, and that things happened the way it says they did. I also believe that the Bible is true, and teaches us truth; it should therefore be consistent with anything true that we can find out about the world, and, as a matter of fact, it is!

Are the Genesis Creation accounts "history"? Well, if history is an "account of things that happened" then yes, but the Biblical view of "history" is "an account of what happened as verified by eyewitnesses" (see my essay on John 18, www.surrey.ac.uk/ati/ibc/files/OnJohnCh18.pdf), and in this sense the Creation accounts are obviously *not* "history" since there were no (human) eyewitnesses. And is there necessarily a disjunction between the literal and figurative meanings of a text? Absolutely not, as Kelly correctly points out (we discussed this at length above).

Is there any sense in talking of a "secular cosmogony"? No, because "secular" is a Latin word meaning "of ages", that is, in time: to see this we go back to the Latin translation of the Hebrew. So the coda to Book I of Psalms (Ps.41:13) reads :- *Benedictus Dominus, Deus Israë!, a sæculo, et usque in sæculum. Fiat, fiat* ("... from everlasting, and to everlasting ..."), and in the beautiful wedding song for the King (Ps.45:17) it reads :- *Memores erunt nominis tui in omni generatione et generationem : propterea populi confitebuntur tibi in æternum, et in sæculum sæculi* ("... for ever and ever ..."). In astronomy of course, "secular" phenomena refer to things like the long-term perturbations in the motion of planets, as we mentioned above.

Of course, the Creation accounts are a *cosmogony*, that is, about the *beginning* of the Cosmos (therefore they cannot be "secular"!), where the Big Bang is a *cosmogony*, that is about the *development* of the Cosmos. For neither is "common sense" any use at all, since both necessarily fall outside any experience we could possibly have had. And, contrary to Kelly's assertions, the Big Bang theory is based on rather well articulated empirical assumptions, not materialistic ones (we have discussed "naturalistic" above).

I think that Christians should try to avoid talking nonsense about the natural world. As Augustine pointed out long ago, how can God be glorified if we talk about his Creation foolishly? Unfortunately, Kelly's book is full of foolish nonsense.