The Authority of Scripture:
Scripture, Cosmology, and Science

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The Jews of antiquity, the early Christians, and even the medieval Catholic Church do not appear to have been committed to one view of the physical universe. A brief look at the textual data shows why. To other scholars, and to the best that I can tell, the ancient Hebrews seem to be rather agnostic on the precise physical nature of the earth, the solar system, and the universe. They used certain poetic words to describe the *theological* significance of the cosmos. They believed God created it, and that fact certainly affected their theology and their ethics, not least on the topics of marriage and sexuality. But heliocentrism or geocentrism did not affect anything.

While the Hebrew writers clearly stay away from ideas like the ancient Hindu cosmology of a world resting on an endless column of turtles, they simply borrow poetic expressions without seeing much more significance in the strictly 'scientific' types of questions. For example, how did the ancient Hebrews understand the relation between the earth and the heavens? The biblical text uses multiple sets of images: The earth is said to have 'pillars' (Job 9:6; Ps.18:15) which presumably rest on something, which may recall an image of a flat earth resting on 'pillars.' And in Psalm 93:1, the earth is said to have been 'established' by God, which might also implicitly refer to this image.

Yet, quite surprisingly, God is also said to 'hang the earth on nothing' (Job 26:7), and Job is often held to be one of the earliest books of Scripture, if not the earliest, which is very significant for this issue. So the biblical data does not settle the issue one way or the other. While ultimately the 'pillars' establishing the earth seem to be metaphysical-theological and not physical in nature, thus reconciling these two particular verses, the language itself does not seem very interested in deciding this for us. Likewise, the sun has 'a tent,' a 'chamber,' out of which he runs his course (Ps.19:4 – 5), but what does this indicate when the heavens are poetically referred to as a 'vault/dome' or perhaps a 'sphere' (Isa.40:22; Job 22:14; Pr.8:27) suggesting that the sky is the 'roof' of a vast, palatial, temple-chamber understood from Genesis 1:1 – 2:3; a tent suggesting both a residence but also temporariness (e.g. Isa.40:22; Ps.104:2); a molten metal mirror beautifully reflecting colors from the sun and water (e.g. Job 38:18); a scroll on which knowledge is written (Ps.19:1 – 4) but also suggesting temporariness again (Isa.34:4), etc.; and all these words are used poetically in other traditions as well?

Did the ancient Hebrews simply accept the cosmological conception(s) of their neighbors? A good question: Certainly their language shares common poetic images in use at various times, but the answer is indeterminate because their neighbors did not agree on the matter: Homer poetically referred to the earth as a flat circular disk; but the Zoroastrians and Tibetans believed in a spherical earth, so looking to the west and east of the Hebrews doesn't settle the issue. This confirms the clear sense we get in reading the Hebrew Scriptures that the authors of these books did not think the precise relationship between the sun and the earth mattered; what mattered was the relationship between God and the physical universe, and as a major subset of that, God and humanity.

How did the earliest Christians receive the biblical data? The early Christians that I know of – in Augustine's *Literal Meaning of Genesis*, Basil of Caesarea's *Hexaemeron*, Gregory of Nyssa's *The Making of Man*, and John Philoponus' *On the Creation of the World* – were not interested in rooting their cosmological views in Scripture alone. They took Scripture seriously, of course, but they understood that Scripture, in Genesis 1 and in these poetic references elsewhere to the sun and earth, utilized a poetic genre which admitted different plausible interpretations. So they made some use of the 'science' of their day, not uncritically, but in recognition that this was obviously not a major concern of the Scriptures. The origin of the cosmos was, however, a major concern, and they pushed very hard against the reigning Greek 'science' on that, because of their commitment to Scripture and to Christ.

It is again important to note how exactly 'science' and Christian faith met on the issue of cosmology. There are two main elements. (1) The real clash between Christian and Greek scientific and philosophical thought occurred over whether or not the physical universe and all matter had a beginning. Christians accepted from Scripture God's creation of the universe and of physical matter at a certain point in time. They rejected the reigning Greek view that all matter was co-eternal with the spiritual world, and would always be co-eternal. According to Athanasius, the Epicureans believed all things were self-originated and therefore haphazard, and Plato believed God made the world

out of pre-existing and uncreated matter (*On the Incarnation* 1.2). The pagans thus continued to attack Christians for their doctrine of creation. Yet the Christians insisted upon creation ex nihilo in the face of the Greek 'scientific consensus' that weighed against them, simply on the bases of Scripture and the Christocentric reality that in and through the resurrection of Jesus, God was bringing about a new type of physical matter, for humanity especially but also for the whole creation. This central and decisive irregularity found in Jesus' bodily resurrection, this 'upgrade' of physical matter, signified that the physical universe is not static and would not remain the same, contrary to the claims of Greek 'science.'

(2) The Christians also understood quite well what Scripture really insisted upon and allowed the poetic language to simply be poetic, because nothing ethical was affected by whether one believed in a heliocentric or geocentric solar system. Yes, they began by accepting a geocentric view of the solar system with perfectly circular planetary orbits, from Ptolemy and Aristotle. But the Christian philosopher, astronomer, and theologian John Philoponus (490 – 570 AD) rejected much of Aristotle by doing actual empirical research, something the Greek 'scientists' and philosophers refused to do because of their metaphysical presuppositions. Philoponus and others, like Augustine before him, referred to the created universe as a 'book.' It could be read and understood. It could be empirically experimented upon, and the results would be consistent. It operated rationally as opposed to irrationally, because their conception of God was that of a rational creator and law-giver; though to be precise, they knew God to be *more* than a rational law-giver, but not *less*.

By contrast, a significant bloc of Muslims believed that God/Allah continued to actively cause all natural phenomena by personal fiat, which *prevented* them from doing many types of scientific research (Rodney Stark, *The Victory of Reason*). Hence, the Christians understood Scripture itself, not as telling them concrete details about the natural world, but as inviting them to empirically study it. While John Philoponus was at the school of Alexandria, he published, starting from 510 AD all the way until his death in 570, at least 40 books on mathematics, physics, chemistry, theology, and philosophy. Although after his death, Philoponus was declared a heretic for his theological adherence to non-Chalcedonian Christology, this does not detract from his efforts as a scientist and philosopher. He was amply quoted by Galileo and other medieval astronomers and physicists on dynamics and his theory of planetary movement. His career and long presence in the academic circles of Alexandria demonstrates that early on, the Christians regarded the poetic aspects of Scripture as scientifically indeterminate but welcoming inquiry, and were okay with questioning Ptolemy and Aristotle.

The fact that the Catholic Church financially supported Copernicus, Galileo, and other scientists at medieval research universities, encouraged their research, and welcomed their discoveries, was merely a continuation of this tradition of inquiry. The understanding of a heliocentric solar system changed their understanding of *Ptolemy and Aristotle*, but not their understanding of *Scripture*. I understand that the caricature of Christians and cosmology is different, but I think that is because Enlightenment modernists wanted to (and still want to) paint themselves as the heroes who emerged from the so-called 'dark ages' of medieval Christendom, like the gods beating the titans, not because it was factually true.

Whereas people suggest that the ancient Hebrews and early Christians saw things in *only* one way, based *only* on the biblical text alone, regarded the Scriptures as the *only* source of information on the subject, and that *only* scientific knowledge eventually overturned that view, we find instead that the ancient Hebrews seem to have exercised reserve about different cosmological possibilities, that the early Christians did not base their opinions on the biblical text alone, that Christians did not regard the Scriptures as the only source of information on the subject but rather as a broad introduction to the subject, and that the biblical invitation to study the created world as a stable system overturned a particular cosmology that they inherited from the Greek philosophers. On the question of cosmology, Christians understood Scripture not as a textbook *on* science, but an invitation *to do* scientific research because of the stability of God's creation.