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The innovative theology of the book is developed in a fascinating section at the end of Part IV. Wilkinson moves us up a gear with his invocation of Heidegger's Gelassenheit, "releasement," or "letting be." It was a disappointment that Loren did not interact with Ruth Page's use of that term in God and the Web of Creation, but what he goes on to do is very striking. He uses Hopkins's terminology of "selving" from the sonnet "As Kingfishers Catch Fire" to develop the idea of transitive and intransitive selving. Creatures in general "selve" intransitively - to return to the poem, they "fling out" that "What I do is me, for that I came." But God, through what Hopkins called "the great sacrifice," selves transitively in a ceaseless and costly letting be. So far, so good, but then there is a yet bolder step, in suggesting that humans too are called to transitive selving. When our "gifts of reason, creativity, and imagination are directed to other creatures - not in order to use them, but to know, name and enhance their true selves ... human selving can echo God's selving" (p. 299). This is (using the sestet of the same poem) the selving activity of "the just man" who "justices," using humans' unique gifts to nourish the selves of other creatures, and becomes "in God's eye ... Christ," as Hopkins has it. (This extraordinary theological claim could be justified by appeal to the idea that the human being perfectly "justicing" is acting as the authentic image of God in the world. The Pauline letters identify Christ as this image [Col. 1:15, 2 Cor. 4:4]. So, the process by which humans can be "conformed to the image of [God's] Son" [Rom. 8:29] and be "transformed into the same image" [2 Cor. 3:18] is seen as complete in the justicing human. But Wilkinson does not offer this groundwork—he is content to work from the poem itself.)

Here I would suggest that Heidegger's term *Gelassenheit* is very helpful, because it addresses the vital question of what it is that humans can do for the non-human creation. We can let it be, in ways that draw on all our gifts, very much including the scientific, and all our virtues—vitally those of wonder, love and hope. This hope is underpinned by resurrection, as Wilkinson goes on to conclude. I found this formulation both original and compelling. It begs many questions, but I hope it will stimulate much thought, as such a rich offering deserves to do.

There were occasional errors—for instance, Laplace should be "Pierre-Simon" not "Simon"—but the book is attractively presented and well indexed. It will introduce the general Christian reader to an intriguing vein of reflection on our place in creation and new creation, and students to important aspects of the science-religion debate. The ecotheologian will

find plenty to chew on in Part IV. Above all, I am left with the sense of a profound gift generously given, by which we are all left in Loren Wilkinson's debt.

Reviewed by Christopher Southgate, University of Exeter, Exeter, UK EX4 4RJ.

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On Makous and Biblical Longevities

In the most recent past issue of PSCF, Walter Makous ("Exponential Decay of Biblical Longevities," PSCF 76, no. 1 [2024]: 30-34) presented an intriguing theory that attempts to explain the decay in the lengths of patriarchal longevities from Shem to Moses reported in the genealogy of Genesis chapter 11.1 Makous previously argued that the lifetimes of these patriarchs were not fabricated or "manufactured" numbers, based on an analysis of the first digit in each longevity figure.2 In a dialogue with Walter Huebner that followed publication of the earlier paper, Makous argued that his analysis did not say that the numbers were accurately transmitted, but "simply provides evidence against fabrication as one particular source of inaccuracy."3 However, in his new analysis, Makous has gone considerably further, by attempting to validate the patriarchal lifetimes as real numbers, with the conclusion that this "somewhat strengthens one's confidence in the truth of the biblical longevities."4

However, other evidence suggests that the ages in the patriarchal genealogies are not *meant* to be taken literally. If that is the case, a belief in the "truth of the biblical longevities" reported in the genealogies of Genesis may lead to the erroneous dating of historical events described in the Bible, and therefore may actually undermine the historicity of the biblical record.

Some of these issues were raised in an earlier paper by Carol Hill, which Makous did not properly take account of in either of his own papers. For example, Hill analyzed both of the major genealogies in Genesis (Adam to Noah and Shem to Abram), which list the age of each patriarch at the birth of their first son, their remaining years and their total lifespan, comprising a total of sixty age values.⁵ Within these sixty values, the final digit in each age never ends in 1 or 6. If these final digits were randomly distributed, as would be expected for true age information, Hill calculated a one in half-a-million chance that these values would result.

In contrast, Makous analyzed the first digit in each of these ages, with the suggestion that the first, second, third, or any other digit is essentially equivalent. However, this is not the case at all. For example, noone would expect the first digit of modern longevities to be random, since the "standard" human lifetime is 70 years. On the other hand, we might well expect the final digit of a modern longevity to be random, because it falls within the realm of what we would call "noise." So, the argument in Makous's original paper was not entirely valid, but on the other hand it made very limited claims. In contrast, the new paper makes a much more ambitious proposal.

The essence of the new argument is that the fall in longevities from Shem to Abraham was caused by intermittent unions with the short-lived "daughters of Cain." The assumption is that offspring from a union of two people with vastly different longevities will be a simple average of the two parents. However, the scientific basis for suggesting that the offspring of a marriage will have a longevity almost exactly half-way between a miraculously long-lived father and a mother with normal longevity is extremely weak. There is no known mechanism for consistently averaging two extremely different longevities in the offspring.

An even larger mechanistic shortcoming of the model is that the wives of the offspring of mixed-age unions are required to vary in lockstep with their husbands. This could realistically be satisfied (within the parameters of the model) only if the wives were all half-sisters of their husbands. Otherwise, such a coincidence is extremely unlikely. Hence, I suggest that this model is really a numerical contrivance rather than one based in biological reality. But beyond that, I suggest that it is necessary for our understanding of how Genesis fits into ancient

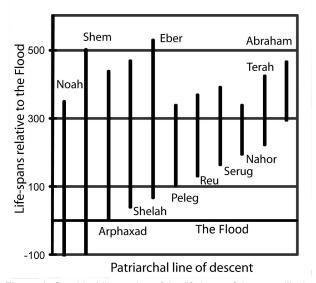


Figure 1. Graphical illustration of the lifetimes of the post-diluvian patriarchs relative to Noah's Flood, according to the Masoretic Text.

history that the genealogy of Shem *not* be regarded as chronologically accurate.⁶

Patriarchal lifetimes are not the only component in the genealogy of Genesis chapter 11. The other component is the age of each patriarch at the birth of his first son. Together, these two values allow the individual lifespans to be linked together into an apparent chronology (fig. 1). This is the chronology that was used by Bishop Ussher to date the creation to 4004 BC, and also Noah's Flood to 2350 BC.⁷ However, the date of 2350 BC is very late in Middle Eastern civilization, and there is no evidence whatever for a great flood at this time, even of a regional extent. In addition, the genealogy in figure 1 leads to the claim that Noah was still alive when Abraham was born, and Shem actually outlived Abraham, which seems at least unlikely.

These observations are based on the genealogical information in the Hebrew Masoretic text, whereas the Greek Septuagint version of the Old Testament adds 100 years to the date when most of these patriarchs fathered their first son. This has the effect of stretching out the genealogy so that Shem dies before Abraham is born. It also increases the date of Noah's Flood to around 3300 BC. However, this date is at the height of Sumerian civilization in Mesopotamia, when monumental temple architecture was being built at the city of Uruk on a scale similar to the Greek Parthenon nearly 3,000 years later. Since the temple at Uruk was built beside the River Euphrates near the center of the plain of Mesopotamia, it is unbelievable that there could be no archaeological evidence for Noah's Flood if it happened at that time.

New Testament quotes from the Old Testament are based on both the Hebrew and the Greek texts, with a majority from the Greek text. This shows that both versions were regarded as the inspired Word of God, despite there being two different versions of the genealogy of Shem with these differences in the ages of the patriarchs when their sons were born. This suggests that such genealogies are not intended to provide chronological information.

In fact, scientific evidence gives a most likely date for Noah's Flood in the Neolithic period, around 5600 BC. This date is supported by several distinct lines of evidence. Firstly, it is before the Ubaid period, when trade networks spanning the Middle East were clearly established. Only before this period could flooding of the plain of Mesopotamia realistically have been identified as a flood that covered the entire earth. Secondly, a flood in the Neolithic period is required for the biblical belief (Genesis chapter 10) that all Middle Eastern peoples and languages originated from Noah's sons after the Flood. 11

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A flood in the historical period could not reasonably have occurred before the origins of all of these peoples and languages. Thirdly, the sixth millennium BC is the last period when very wet climatic conditions occurred in the Fertile Crescent, when massive flooding of the plain of Mesopotamia would have been most likely.¹²

If Noah's Flood occurred around 5600 BC, this would be about 3,500 years before the time of Abraham, which implies more than 100 generations between them, rather than the ten generations in the genealogy of Shem. This supports the idea that this genealogy is meant to be schematic, and not to be taken literally as a record of real ages. Instead, this genealogy has quite a different function. Notwithstanding the claim of Joshua 24:2 that Abraham's ancestors were idolaters, it asserts that Abraham was a spiritual descendant of Noah, and therefore that the faith of Noah was passed down to Abraham within Mesopotamian culture, however much this may have been obscured.

This continuity of faith by the patriarchs was what the Reformers Luther and Calvin took from Genesis 11.¹³ They believed these verses literally, but they also lived in a pre-scientific world where the sun was believed to orbit the earth, and the moon was believed to be literally on fire.¹⁴ In the twenty-first century, our challenge is to accept the theological implications of the "golden thread" of divine revelation to humankind, while at the same time using scientific evidence to accurately chart ancient history. Paradoxically, a belief in the real historicity of Genesis requires that the genealogies of Genesis not be taken literally.

Notes

¹Walter Makous, "Exponential Decay of Biblical Longevities," *Perspectives on Science & Christian Faith* 76, no. 1 (2024): 30–34.

²Walter Makous, "Biblical Longevities: Empirical Data or Fabricated Numbers?," Perspectives on Science and Christian Faith 63, no. 2 (2011): 117–30, https://www.asa3.org/ASA/PSCF/2011/PSCF6-11Makous.pdf.

Walter Makous, "Biblical Longevities: Reply to Huebner," Perspectives on Science and Christian Faith 64, no. 2 (2012): 143, https://www.asa3.org/ASA/PSCF/2012/PSCF6-12Makous.pdf.

⁴Makous, "Exponential Decay of Biblical Longevities," 33. ⁵Carol A. Hill, "Making Sense of the Numbers of Genesis," Perspectives on Science and Christian Faith 55, no. 4 (2003): 239–51, https://www.asa3.org/ASA/PSCF/2003/PSCF12-03Hill.pdf.

⁶Ronald L. Numbers, "'The Most Important Biblical Discovery of Our Time': William Henry Green and the Demise of Ussher's Chronology," *Church History* 69, no. 2 (2000): 257–76, https://doi.org/10.2307/3169579.

James Barr, "Why the World Was Created in 4004 BC: Archbishop Ussher and Biblical Chronology," Bulletin of the John Rylands Library 67, no. 2 (1985): 575–608, https://www.escholar.manchester.ac.uk/api/datastream?publicationPid=uk-ac-man-scw:1m1647&datastreamId=POST-PEER-REVIEW-PUBLISHERS-DOCUMENT.PDF.

Charles A. Burney, From Village to Empire: An Introduction to Near Eastern Archaeology (New York: Phaidon Press, 1977), 59.

⁹Crawford H. Toy, *Quotations in the New Testament* (New York: Charles Scribner's Sons, 1884), ix.

¹⁰Robert A. Carter, "Globalising Interactions in the Arabian Neolithic and the 'Ubaid,'" in *Globalization in Prehistory*, ed. Nicole Boivin and Michael D. Frachetti (New York: Cambridge University Press, 2018), 43–79.

¹¹Andrew Kitchen et al., "Bayesian Phylogenetic Analysis of Semitic Languages Identifies an Early Bronze Age Origin of Semitic in the Near East," *Proceedings of the Royal Society B: Biological Sciences* 276, no. 1668 (2009): 2703–10, https://doi.org/10.1098/rspb.2009.0408.

¹²Miryam Bar-Matthews et al., "The Eastern Mediterranean Paleoclimate as a Reflection of Regional Events: Soreq Cave, Israel," *Earth and Planetary Science Letters* 166, no. 1-2 (1999): 85–95, https://doi.org/10.1016/S0012-821X (98)00275-1.

¹³John Calvin, Commentaries on the First Book of Moses (1554), Calvin's Commentaries, vol 1, trans. John King (Calvin Translation Society, 1847; reprint, Grand Rapids, MI: Baker Book House, 1984), 334.

¹⁴Calvin, Commentaries on the First Book of Moses, 46.

Alan Dickin ASA Fellow



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