One Day to a Cubit
(Facsimile 2, Figure 1)

One of the more puzzling comments in the Book of Abraham comes from the explanation given in figure 1 of Facsimile 2, which speaks of “the measurement according to celestial time [of Kolob], which celestial time signifies one day to a cubit.” Latter-day Saint commentators on this passage have largely been at a loss to explain what this might mean.¹ (A cubit, after all, is a unit for measuring length, not time.²) Others have attempted to make sense of this by suggesting that “as one of Kolob’s days is a unit of celestial time, so the cubit is the unit of celestial measurement, by which the size of the worlds are measured when the foundations thereof are laid”;³ or that this describes the phenomenon of space-time;⁴ or that the text is “employing a symbolic multiplier of length parallel to the multiplier of time, whereby a day is a thousand years.”⁵

More recently, Latter-day Saint scientist Hollis R. Johnson proposed “a straightforward scientific explanation for the rather curious phrase.” According to Johnson, “It is quite possible that the phrase describes

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1. See, for instance, Richard D. Draper, S. Kent Brown, and Michael D. Rhodes, The Pearl of Great Price: A Verse-by-Verse Commentary (Salt Lake City: Deseret Book, 2005), 290, who simply admit that they “do not know how to interpret this.”


exactly the movement of the brightest celestial object, the sun, as it moves among the stars during the course of a year, a reflection of the earth’s orbital motion. As Johnson noted, while the cubit was widely used in the ancient world to measure length, it was also used by some ancient astronomers to measure angles. Johnson cites a Mesopotamian text from the fourth century BC, for example, that recorded “daily positions of the moon and the planets visible above the local horizon.” One translation of the text reads: “Night of the 20th, last part of the night, the moon was [nn cubits] below β Geminorum, the moon being ½ cubit back to the west. The 21st, equinox; I did not watch. Night of the 22nd, last part of the night, [the moon was] 6 cubits [below] ε Leonis, the moon having passed ½ cubit behind α Leonis. Night of the 24th, clouds were in the sky.”

This text records the angular position of the moon relative to various stars in the constellations Gemini and Leo and records those angles in cubits. Other Mesopotamian astronomical texts calculated the position of planets the same way. “Shorter apparent distances were sometimes designated by the cubit, subdivided into 30 fingers. The cubit had an astronomical application for measuring distances in the heavens between fixed stars and the meridian, for example, or between planets and ecliptical stars, as well as for measuring eclipse magnitude.” The ancient Egyptians likewise measured angles in cubits. So, Johnson

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8. See the examples in Hermann Hunger and David Pingree, Astral Sciences in Mesopotamia (Leiden, Neth.: Brill, 1999), 160, 177, 179; compare Francesca Rochberg, The Heavenly Writing: Divination, Horoscopy, and Astronomy in Mesopotamian Culture (Cambridge: Cambridge University Press, 2004), 106, 125, 238.
argues, “the phrase one day to a cubit in the Book of Abraham seems to refer to angular velocity rather than linear velocity. With this changed perspective, we can readily interpret the otherwise opaque passage one day to a cubit as an excellent description of the motion of the sun as it passes among the stars and constellations during the course of a year.” Using the cubit to measure this angular velocity would have been relatively easy or simple for Abraham and other ancients. “An observer, even with crude instruments, or even with the hand itself, can make simple measurements to yield angular information about objects close together in the sky—measurements in which the pointer finger at arm’s length subtends an angle of about a degree, called a ‘cubit’ by the ancients.”

Of course, since the measurement of Kolob, rather than the sun, is said to be “one day to a cubit,” Johnson’s argument needs to be slightly tweaked: “With the extended perspective that a cubit is an angle of a degree, the curious phrase one day to a cubit from the Book of Abraham describes precisely the movement of [Kolob].” Overall, this rings plausible, especially since the placement of Kolob in the cosmology of Abraham 3 is relative to other observable celestial bodies (Abr. 3:9, 12–13). And if Kolob is to be identified with the dog star Sirius, as some have argued, this would provide a bright visible object in the night sky by which to calculate angular velocity as described by Johnson. So, while the precise meaning of “one day to a cubit” remains elusive, a reasonable interpretation of the phrase that finds precedent in the ancient world can be and indeed has been made.

Further Reading


14. See “Kolob, the Governing One,” 142–49 herein.