May 20th, 2015, marked David Letterman's last day on the job after some 33 years as the much-beloved jester of late night television. As a tribute to Dave, I thought I would compile a Top Ten List summarizing why we should distrust virtually everything modern astronomers have to say about the recent history of the solar system. Alas, that subject seemed a bit broad for a short essay, so I eventually settled on offering ten reasons why we can be certain that the ancient sun was not the same solar orb we've grown accustomed to viewing.

The earliest literary texts from ancient Mesopotamia and Egypt date from some 4500 years ago and are replete with detailed descriptions of the sun-god's stereotypical appearance and behavior. While these texts have garnered a great deal of attention from leading scholars around the globe, it has somehow escaped everyone's attention that the ancients' descriptions of the "sun" do not accord with the stereotypical appearance and behavior of the present solar orb. Although it would be easy to enumerate a hundred reasons documenting this extraordinary claim, I will limit myself to listing ten reasons only.

(Ten) Ancient accounts of the sunrise routinely portray it as accompanied by the shaking of heaven and earth.

Of the numerous texts that could be cited in this regard, the following Sumerian incantation to the sun-god is representative in nature: "As my king [Utu] comes forth, the heavens tremble before him and the earth shakes before him."[1]

Now I ask: Does this sound like a realistic description of the modern experience of sunrise? In what sense is the Sun's appearance ever accompanied by the shaking of heaven and earth?

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[1] Lines 13-14 from "A hymn to Utu (Utu B)," in J. Black et al, *The Electronic Text Corpus of Sumerian Literature* (http://www-etcsl.orient.ox.ac.uk/) (Oxford, 1998). Hereafter *ETCSL*.

(Nine) Ancient accounts of the sunrise describe it as an occasion of great tumult and noise.

Ancient literary and mythological traditions portray the sun god's epiphany as commonly accompanied by thunderous outbursts. The following Sumerian text glorifying Utu may be considered representative in this regard: "The lord, the son of Ningal…thunders over the mountains like a storm."[2]

The phrase translated as "like a storm" is UD-gin$_7$, UD being the Sumerian logogram for "storm." Yet the very same logogram was also employed to write the name of the sun-god Utu. This peculiar confluence of terminology has long baffled scholars. Karl Jaritz, in his dictionary of Sumerian pictographs, offered the following commentary:

"The pictograph doubtless has reference to the sun rising—between hills (?)—hardly, however, the waxing crescent [as proposed by Deimel in SL II: 722] (because of the meanings), hence also the root meaning 'sun, day, bright light, white'. The semasiological way to the storm is not recognizable."[3]

(Eight) The glorious appearance of the ancient sun-god was deemed to occur while in conjunction with a "twin-peaked" mountain.

Ancient literary traditions and artworks point to a twin-peaked mountain as the celestial locus of sunrise.[4] Indeed, one of the most popular scenes depicted on cylinder seals from the Akkadian period portrays the sun-god "rising" from a twin-peaked mountain (see figure one).[5]

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[2] Line 28 from "A hymn to Utu (Utu B)," *ETCSL*.
[3] K. Jaritz, *Schriftarchaeologie der altmesopotamischen Kultur* (Graz, 1967), p. 116. Translation courtesy of Rens van der Sluijs.
[4] J. Polonsky, "ki-^{d}utu-è-a: Where Destiny is Determined," in L. Milano ed., *Landscapes: Territories, Frontiers and Horizons in the Ancient Near East* (Sargon, 2000), pp. 91-92.
[5] Adapted from W. Ward, *The Seal Cylinders of Western Asia* (Washington D.C., 1910), p. 88, figure 244. R. Boehmer, *Die Entwicklung der Glyptik während der Akkad-Zeit* (Berlin, 1965), figures 392-438 provides dozens of examples of this basic theme.

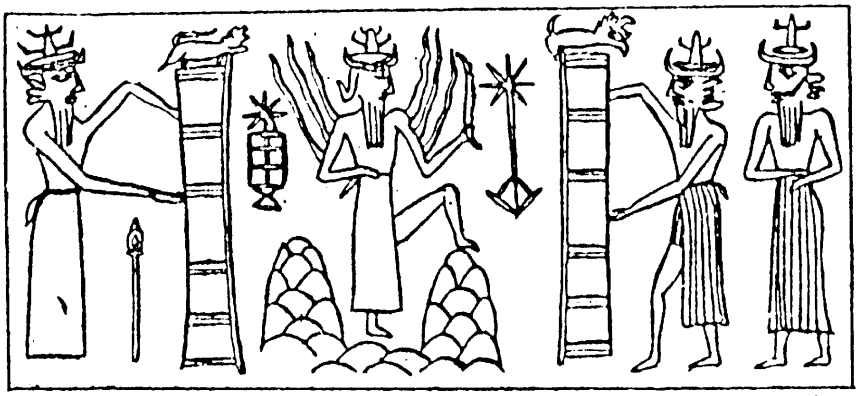

Figure One

In ancient Egypt, similarly, the locus of sunrise was given concrete form in the hieroglyph denoting the akhet—𓇳. In the hieroglyph in question a solar disc is placed within a twin-peaked mountain (the twin-peaked form constitutes the Egyptian logogram for "mountain": ḏw).

As we will document below, the mountain of the sunrise formed a prominent motif in ancient Mesopotamian and Egyptian accounts of cosmogony—this despite the fact that a twin-peaked mountain is nowhere to be found in the immediate vicinity of the present sun.

(Seven) The ancient sun-god is said to have made his daily appearance from the "heart" or middle of the sky.

In the modern skies, nothing is more familiar than the gradual appearance of the giant solar orb over the eastern horizon and its slow but steady ascent to the top of its apparent motion around the Earth, after which it descends and eventually recedes below the western horizon. Yet in the earliest literary accounts of the "sunrise" from Mesopotamia and Egypt such stereotypical behavior is nowhere to be found. Rather, ancient

descriptions of the sunrise typically describe it as occurring in the "heart" or middle of the sky. The following hymn from the Old Babylonian period offers a case in point:

"Utu, great light, who appears from the heart of heaven."[6]

The same observation is recorded in various other ancient texts as well. Witness the following passage:

"Šamaš, when you come forth from heaven, Šamaš, when you come forth from the midst of heaven…"[7]

The same idea persists in the much later Babylonian creation text known as *Enuma Elish*, wherein we read as follows of the god's creation: "And mankind beheld the Sun-god in the gate of his going forth, In the midst of heaven and earth they created him."[8]

The phrase translated as "midst" of heaven is Sumerian an.šà, literally "heart of heaven." Such passages have long proved baffling to students of ancient Mesopotamian literature. Noting that it was the "abode of the gods," A. Leo Oppenheim referred to an.šà simply as the "inscrutable realm."[9]

According to Wayne Horowitz, author of the standard monograph on Mesopotamian Cosmic Geography, the phrase in question has reference to the center of heaven, roughly corresponding to the modern concept of the celestial apex.[10] Yet in the solar system as currently configured, the apex of heaven has nothing whatsoever to do with the locus of sunrise. Hence the anomaly presented by the Sumerian testimony that the ancient sun-god was accustomed to rising from the "heart" or "midst" of heaven.

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[6] B. Alster, "Incantation to Utu," *Acta Sum* 13 (1991), p. 71.
[7] P. Schollmeyer, *Sumerisch-babylonische Hymnen und Gebete an Šamaš* (Paderborn, 1912), p. 104. [author's translation]
[8] Quoted in W. Ward, *op. cit.*, p. 94.
[9] A. Oppenheim, "Man and Nature in Mesopotamian Civilization," C. Gillispie ed., *Dictionary of Scientific Biography, Vol. 15* (New York, 1978), p. 640.
[10] W. Horowitz, *Mesopotamian Cosmic Geography* (Winona Lake, 1998), pp. 238-239.

Far from being an isolated literary device, similar conceptions are met with in Mesopotamian ritual. Thus, a Sumerian incantation recited at sunrise included the following passage: "Great Lord, when you rise from clear 'Heaven's Interior,' hero, youth, Shamash, when you rise from clear 'Heaven's Interior.'"[11] The phrase translated as "Heaven's Interior" is the aforementioned an.ša, the "heart" of heaven. Once again, it is patently obvious that no sober-minded skywatcher would ever describe the current Sun as "rising" from the "midst" of heaven.

Equally disconcerting are statements to the effect that the ancient sun-god dimmed or "set" in the very same place—i.e., in the "midst" of heaven. Thus, in an incantation intended to be recited at sunset Shamash was addressed as follows: "O Sun-god, when you enter 'Heaven's Interior,' may the bolt of the clear heavens say 'hello.'"[12]

Now here is an interesting puzzle: How is it possible for the sun to both "rise" and "set" from the same place in the sky, however the "midst of heaven" is to be understood from an astronomical standpoint? A satisfactory answer to this question will likely necessitate a revolution in our understanding of the solar system's recent history.

The Mesopotamian texts describing the sunrise have never been subjected to a careful analysis from a comparative standpoint. Rather, the anomalous descriptions are typically passed by in silence, with little or no commentary at all.[13] Certainly the imagery in question has yet to be adequately explained from an astronomical standpoint. Wayne Horowitz, one of the few scholars to subject the Mesopotamian cosmogonic texts to any sort of rigorous analysis, confessed his inability to explain the literary descriptions of the Sun's daily behavior:

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[11] *Ibid.*, p. 248.
[12] Abel-Winckler 59 as quoted in W. Horowitz, *op. cit.*, p. 248.
[13] A notable exception in this regard is the comprehensive PHD dissertation of Janice Polonsky, *The Rise of the Sun God and the Determination of Destiny in Ancient Mesopotamia* (2002), which provides a lucid summary of the relevant Mesopotamian material.

"Thus, according to one Sumerian tradition, the Sun-god apparently spent the night in an.šà instead of passing under the earth's surface through the Apsu or underworld. It is not clear, though, how the Sun-god might have passed from the western to eastern horizon at night through an.šà."[14]

It will be noted that Horowitz simply takes it for granted that the ancient sun-god "passed from the western to eastern horizon at night." That he would make this assumption is entirely reasonable, needless to say, yet it is at odds with the testimonial evidence as the ancient Sumerian texts nowhere make this claim. Indeed, as we will document shortly, the earliest texts are quite explicit that the sun did not move at all during his daily cycle. It simply "flared up" and "dimmed" in the "midst" of heaven.[15]

To his credit Horowitz admitted that such passages caused "severe problems" for ancient scribes attempting to understand the Sumerian language. How could it be otherwise, since they are impossible to reconcile with the familiar behavior of the current Sun? Not even a schoolchild would report that the sun "rose" and "set" in the same quarter of the sky, much less in the sky's "midst."

Horowitz states the obvious when he remarks that ancient references to the "midst of heaven" are difficult to explain:

"The use of terms for the 'middle of heaven' as a part of the sky are problematic…Although it may be assumed that the "Middle of Heaven' included the center of the sky around the apex of the celestial dome, it is not possible to determine how far the 'Middle of Heaven' extended downward."[16]

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[14] *Ibid.*, p. 248.
[15] D. Talbott, *The Saturn Myth* (New York, 1980), pp. 37-60.
[16] W. Horowitz, *op. cit.,* pp. 238-239.

Properly understood, the ancient Mesopotamian literary references to the sun-god's "rising" and "setting" in the "midst" of heaven form a perfect complement to the numerous references to the sun-god "rising" over a towering mountain insofar as the latter is expressly localized in the "midst" of heaven. Witness the following hymn: "You [Shamash] are mighty over the mountain, you gaze upon the earth, you are suspended in the midst of heaven to the ends of the world."[17] An old Babylonian hymn to Utu is of similar import: "Utu, when you come forth from the midst of heaven, when you ascend the mountain of the chaschur-cedars."[18]

(Six) The ancient sun-god is commonly represented as a "horned" celestial body.

In ancient Mesopotamia, as in other cultures around the globe, the sun-god is commonly represented as a "horned" celestial body.[19] Indeed, in the vast majority of cylinder seals depicting Shamash the god is shown as either horned or as wearing horned headgear.[20]

The same idea is evident in early Sumerian hymns celebrating the sun-god, which regularly describe the god as a bovine-formed celestial agent:

"Enki placed in charge of the whole of heaven and earth the hero, the bull who comes out of the Ḫašur forest bellowing truculently, the youth Utu, the bull standing triumphantly, audaciously, majestically, the father of the Great City [i.e., the Underworld]."[21]

"As the white bull rose from the horizon, Bull of Ḫašur(-mountain), who fixes destiny…Youth, Utu, extended his rays from heaven."[22]

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[17] A. Schollmeyer, *op. cit.*, p. 87. [author's translation]
[18] A. Falkenstein & W. von Soden, *Sumerische und Akkadische Hymnen und Gebete* (Zürich, 1953), p. 222. Author's translation from the original German.
[19] See J. Assmann, *Egyptian Solar Religion in the New Kingdom* (London, 1995), p. 121, for repeated references to the sun-god as bovine in form in ancient Egypt.
[20] See the numerous examples in W. Ward, *op. cit.*, pp. 88-95. See also P. Steinkeller, "Early Semitic Literature and Third Millennium Seals," in P. Fronzaroli ed., *Literature and Literary Language at Ebla* (1992), Plate 4 figures 5-9 wherein the sun-god appears as a bovine-horned figure already during the Pre-Sargonic period.
[21] Lines 373-380 from "Enki and the world order," *ETCSL*.

"Utu, great lord, wild bull."[23]

"Wild steer with massive limbs, sparkling, curved horns, at his rising, *his limbs*."[24]

Especially significant are those ancient texts which describe the sun-god's "horns" in specific relationship to the cycle of day and night. Thus, one text alludes to the "splendid horns like the sun coming forth from his sleeping chamber."[25] Now here is a remarkable statement. The first anomaly to be noted is the obvious fact that the current sun does not typically display "horns" during its daily epiphany. Equally anomalous is the explicit comparison drawn between the sun's "horns" and the onset of "day." Although this statement is meaningless with regard to the current Sun, it is perfectly descriptive of the daily cycle during the period dominated by the polar configuration.[26]

(Five) Ancient accounts of the sunrise describe it as occurring within two "gates" or "doors" in the sky.

If scholars have been sorely vexed in their attempt to make sense of the twin-peaked mountain which presided over the sunrise *and* sunset, they have fared little better when it comes to understanding archaic traditions describing the sun-god's appearance from the so-called "gates" of heaven.[27] The following hymn attests to this common theme:

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[22] Lines 228-232 from "Lugalbanda in the mountain cave," *ETCSL* as translated in J. Polonsky, *op. cit.*, p. 186.
[23] G. Castellino, "Incantation to Utu," *OrAnt* 8 (1969), p. 7.
[24] J. Polonsky, *op. cit.*, pp. 205-206, citing the Utu Hymn 1, lines 14-15.
[25] S. Kramer, *The Sacred Marriage Rite* (Bloomington, 1969), p. 41.
[26] See here the groundbreaking analysis in D. Talbott, *The Saturn Myth* (New York, 1980), pp. 228-327. See also E. Cochrane, "Sumerian Cosmic Geography," online at http://www.maverickscience.com/archaeoastronomy.htm
[27] W. Heimpel, "The Sun at Night and the Doors of Heaven," *JCS* 38 (1986), p. 140 writes: "The sungod is more often associated with the doors of heaven than is any other god, and the opening of doors is described in detail only in those passages that mention the sungod as passing through."

"Šamaš, when you make your appearance in the midst of heaven, the bolt of the shining heaven gives you greetings; the door-wings of heaven swear homage to you."[28]

The same idea is evident in the following ritual prayer: "O Šamaš, you have opened the locks of the gates of heaven, you have come up the staircase of pure lapis lazuli."[29]

In figure one above, there appears a familiar scene from Akkadian cylinder seals which depicts the sun-god as appearing between two celestial gates or doors, the latter placed alongside the twin-peaked mountain.[30] That there are no visible landmarks in the immediate vicinity of the current Sun that would provide an objective reference for the double "gates/doors" is apparent to one and all. As a result of this discrepancy, scholars have been inclined to view the solar "gates" as imaginary in nature. Witness the following disclaimer offered by William Ward: "No class of cylinders better illustrates the poetic imagination of a primitive people than those which give us the representation of the Sun-god Shamash emerging from the gates of morning and rising over the Eastern mountains."[31]

A decisive clue is provided by the fact that the Mesopotamian skywatchers ascribed a bovine form to the gates in question.[32] Thus it is that ancient Akkadian cylinder seals depicting the sunrise occasionally substitute the horns of a bull (or bulls) for the twin-peaked mountain as the site of the sun-god's epiphany (see figure two).[33]

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[28] *Ibid*., p. 59. [author's translation]
[29] YOS 11 23:9-10 as translated in P. Steinkeller, "Of Stars and Men," in A. Gianto ed., *Biblical and Oriental Essays in Memory of William Moran* (Rome, 2005), p. 29.
[30] W. Ward, *The Seal Cylinders of Western Asia* (Washington, 1910), p. 89.
[31] *Ibid*., p. 87.
[32] F. Wiggermann, "Mythologie B," *Reallexikon der Assyriologie, Vol. 8* (Berlin, 1997), p. 571 observes: "Many cylinder seals of the Akkadian period show a recumbent bull carrying on its back, or perhaps simply lying in front of, a so-called 'winged gate' or winged temple."
[33] Adapted from R. Boehmer, *Die entwicklung der Glyptik während der Akkad-Zeit* (Berlin, 1965), figure 397. See also figure 2:9 in P. Amiet, *La glyptique mésopotamienne archaique* (Paris, 1961), pp. 39-41.

Figure Two

Of such scenes in Mesopotamian art, Elizabeth van Buren observed:

"The Sun-god with rays stands as in the earlier representations, pressing down with a hand on each side, but here it is not upon mountains but on the heads of two recumbent bulls whose bodies merge into the other, for they are supposed to be lying back to back to support the rising Sun-god…Here the bulls were substituted for the mountains for they were themselves the embodiment of the mountains."[34]

Why two bulls placed end-to-end would come to be conceptualized as the "embodiment of the mountains" is left unexplained by van Buren.

Christopher Woods has recently returned to this intriguing subject in a series of important articles on the archaic imagery and iconography attending the sunrise. Like Ward and van Buren before him, Woods concludes that the curious images of the bovine figures marking the locus of sunrise are best understood as a figment of the Mesopotamian skywatchers' imagination: "No region of the cosmos plays upon the imagination like the horizon."[35]

With regards to the cylinder seals depicting a double bull at the site of sunrise, Woods observes: "On several Sargonic seals Šamaš is depicted climbing over a pair of kneeling

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[34] E. Douglas van Buren, "The Sun-God Rising," *Revue d'Assyriologie* 49 (1955), p. 13.
[35] C. Woods, "At the Edge of the World: Cosmological Conceptions of the Eastern Horizon in Mesopotamia," *JANER* 9:2 (2009), p. 185.

bison-men—an emblematic variation of the common Sargonic motif in which Šamaš climbs the eastern mountains to begin his daily journey."[36] As for how or why this artistic motif originated, the best Woods can do is refer his readers to Felix Wiggermann's suggestion that it was inspired by the bovine fauna native to the Mesopotamian landscape: "As suggested by Wiggermann, the association of the bison-man with Šamaš stems, in all probability, from the bison's natural habitat in the hilly flanks and mountainous regions east of Mesopotamia, 'distant countries traveled only by the sun.'"[37]

The ad hoc nature of Wiggermann's explanation is evident at once. Yet rather than ask themselves whether analogous traditions are to be found elsewhere, thereby lending the ancient Mesopotamian traditions a certain measure of credence, Wiggermann and Woods resort to speculation and advance the first idea that comes to mind. The fact is, however, that virtually identical traditions are to be found in ancient Egypt as well (see below). Are we to imagine, then, that a similar congregation of *Bos tauri* on the mountains to the east of Egypt gave rise to analogous imagery in that part of the world?

In the Pyramid Texts, for example, the double doors of heaven are celebrated as follows: "The King opens the double doors, the King attains the limit of the horizon…"[38] In the passage in question the word translated by Faulkner as "double doors" is *ḫnswy*, determined with a double bull set next to two door-leaves (see figure three). In his commentary on this passage, Samuel Mercer observes:

"The word *ḫns* means 'door' (WB. III 300) and refers to the heavenly double-bull…and here means the door of heaven with two leaves. The deceased king opens the double doors, and proceeds to one of the limits of the horizon."[39]

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[36] C. Woods, "The Sun-God Tablet of Nabû-apla-iddina Revisited," *JCS* 56 (2004), p. 55.
[37] *Ibid*., p. 55.
[38] *PT* 416.
[39] S. Mercer, *The Pyramid Texts in Translation and Commentary, Vol. 2* (New York, 1952), p. 193.

Mercer's analysis is undoubtedly correct, so far as it goes, but his "explanation" begs the question: Where in all of heaven is a double-bull to be found? At the risk of being flippant, one might answer "at the very same celestial locus where the equally invisible gates of heaven are to be found."

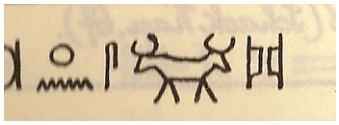

Figure Three

Allusions to the double bull in the sky are also to be found in the Coffin Texts. In Spell 260, for example, the double bull is placed in close proximity to ancient sun-god: "I am this double bull who is on the vertex of Rēʿ, who makes brightness in the East."[40]

It will be noted here that the double bull in question is explicitly linked to the "brightness" (*ḥḏ*) associated with the onset of dawn. This is a telling clue to the original celestial context of the imagery, for the very same association is evidently to be found in ancient Mesopotamian texts. Witness the following passage from an Early Dynastic Shamash hymn: "The bisons of Shamash make visible (his) divine radiance."[41] As is evident at once this particular phrase offers a precise parallel to the Egyptian passage from the Coffin Texts, wherein the double bull makes the "brightness" of the ancient sun-god. To point out the obvious: imaginary celestial structures do not shine forth in brightness. Nor, for that matter, do they perform specific functions in ancient myth and cosmography as if on cue.

What are we to make of such traditions? Why would the literal-minded Egyptian skywatchers describe the most important natural event in their astral religion as occurring within two otherwise invisible celestial structures—in this case, two "doors" or bulls set

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[40] CT III:381.

[41] P. Steinkeller, "Early Semitic Literature and Third Millennium Seals," in P. Fronzaroli ed., *Literature and Literary Language at Ebla* (1992), p. 266.

end-to-end? This particular question, in turn, begs another: Are we to understand the Egyptian imagery attached to the double doors/bulls as figurative in nature, or as a relatively accurate description of the ancients' experience of sunrise?

Aside from pointing out the obvious—namely, that early Egyptian descriptions of the "sunrise" regularly feature the double doors or bulls—Egyptologists themselves have had virtually nothing substantive to say with regards to the probable origins or celestial counterpart of the double bull. Doubtless most scholars would attribute such arcane references to creative imagination and figurative imagery run amok. Yet there is every reason to believe that this commonly expressed default position is erroneous. The fact that the double bull appears already on predynastic artworks (circa 3100 BCE) suggests that its function in the Pyramid and Coffin Texts is that of a pictograph conveying important information regarding a familiar—*and visible*—phenomenon in the skies overhead (see figure four).[42]

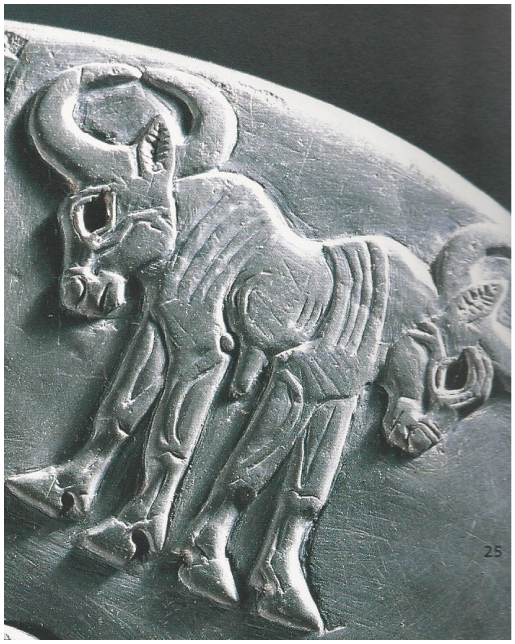

Figure four

[42] *Visual Encyclopedia of Art: Egypt* (Florence, 2009), p. 25.

(Four) The ancient sun-god was described as "fixed" in the midst of the sky and unmoving.

In marked contrast to astronomical reality as currently conceptualized, cultures around the globe remember a primeval period when the sun did not move. Instead the primeval "sun" stood fixed in the middle of the sky. A classic example of this archaic theme is preserved in the Mayan *Popol Vuh*:

"Like a man was the sun when it first presented itself…It showed itself when it was born and remained fixed in the sky like a mirror. Certainly it was not the same sun which we see, it is said in their old tales."[43]

Similar reports are to be found in South America. Thus, the Orinoco of the Amazonian rainforest recall a Golden Age associated with a "fixed" sun named Wanadi:

"In the highest sky was Wanadi…There was no separation between Sky and Earth. Wanadi is like a sun that never sets."[44]

Analogous conceptions are evident in the sacred traditions of the Australian Aborigines. Thus the Adelaide tribe tells of a previous World Age wherein the sun remained fixed in the sky: "The sun sits (or, is permanent), but rests or sleeps at night."[45] The Wiimbaio, similarly, claim that "at one time the sun never moved."[46]

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[43] D. Goetz & S. Morley, *The Popol Vuh* (Norman, 1972), p. 188.
[44] M. de Civrieux, *Watunna: An Orinoco Creation Cycle* (San Francisco, 1980), p. 21.
[45] J. Wyatt, "Some accounts of the manners and superstitions of the Adelaide and Encounter Bay Tribes" in *The Native Tribes of South Australia*, ed. by J. Woods (Adelaide, 1879), p. 166.
[46] A. Howitt, *The Native Tribes of the South-East Australia* (New York, 1904), p. 428.

Ancient India preserved scattered references to similar traditions. In the Rig Veda, an obscure passage describes the Sun as "a gay-hued stone set in the midst of heaven."[47] A passage from the "Chandogya Upanishad" seems to offer corroborating testimony:

"Henceforth, after having risen in the zenith, he (the Sun) will no more rise or set. He will stand alone in the middle."[48]

As Butterworth observed, such traditions suggest that the ancient Indian skywatchers recognized some sort of link between the ancient sun god and the celestial polar region:

"[The primeval sun] is not the natural sun of heaven, for it neither rises nor sets, but is, as it seems, ever in the zenith above the navel of the world. There are signs of an ambiguity between the pole star and the sun."[49]

Ananda Coomaraswamy, a leading scholar of Hindu symbolism, emphasized the relationship between the ancient Sun and the circumpolar regions in Vedic sources. With apparent disregard for the astronomical difficulties posed by this finding, Coomaraswamy remarked: "It must not be overlooked that the polar and solar symbolisms are almost inseparably combined in the Vedic tradition."[50]

(Three) In ancient traditions describing the locus of sunrise it is occasionally identified with the locus of sunset.

It stands to reason that if the ancient sun-god stood "fixed" in the middle of the sky its "rising" and "setting" must have occurred at the same celestial locus. Such, in fact, is the

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[47] V:47:3 as quoted in R. Griffith, *Sacred Writings: The Rig Veda* (New York, 1992), p. 262.
[48] E. Butterworth, *The Tree at the Navel of the Earth* (Berlin, 1970), p. 125 with reference to III:II:1-3.
[49] *Ibid*., p. 124.
[50] "Svayamatrnna: Janua Coeli," in R. Lipsey ed., *Coomaraswamy: Selected Papers* (Princeton, 1977), p. 484.

express testimony of ancient traditions around the globe—this despite the fact that such a situation stands in marked contradiction to the currently configured solar system.[51]

Exactly this situation seems to be described in a famous passage from the Gilgamesh Epic that localizes the place of sunrise/sunset atop a twin-peaked mountain.[52] The passage in question has long represented a crux to scholars of Mesopotamian lore:

"The name of the mountain, Maš[u is its name]. When he (Gilgamesh) arri[ved] at Mt. Mašu, which daily observes the risi[ng sun and setting sun], whose tops, the firmament, r[eaches], whose foundations below reach the underworld. Scorpion-men guard its gate, whose awesomeness is magnificent, gaze is death. Their fearsome sheen covers the mountain-range. At sunrise and sunset they observe the Sun."[53]

A. Leo Oppenheim, in his commentary on this passage, emphasized the incongruity occasioned by the gate's association with both sunrise *and* sunset:

"The most elaborate description of the sun's gate comes from the ninth tablet (ii 1-8) of the Gilgameš Epic. There the sun is said to enter and leave heaven every day through a mountain called Mašu that reaches up to *šupuk šame* and down to the netherworld…The use of the same gate for the rising and setting of the sun is difficult to understand, especially because the gate is said to be at the head of a long tunnel."[54]

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[51] See here the discussion in D. Nakassis, "Gemination at the Horizons," *Transactions of the American Philological Association* 134:2 (2004), p. 216: "In the Hesiodic description of Tartaros, the alternation between night and day at sunrise and sunset is represented as occurring at a single locus; that is, the sun rises and sets at the same place."

[52] W. Horowitz, *op. cit.*, p. 97 rightly points out that "Mount Masu is probably to be translated 'Twin (masu) Mountain(s)' and may be compared with twin-peaked mountains that the Sun rises through in Old Akkadian cylinder seals."

[53] W. Horowitz, *op. cit.*, p. 98.

[54] A. L. Oppenheim, "Man and Nature in Mesopotamian Civilization," in C. Gillispie ed., *Dictionary of Scientific Biography, Vol. 15* (New York, 1981), p. 639.

Unable to explain such traditions, and wholly oblivious to analogous traditions in other cultures, modern scholars have often attempted to emend the specific wording of the *Gilgamesh Epic* in an attempt to "understand" the ancients' testimony. Giorgio de Santillana and Hertha von Dechend, for example, had this to say about the passage in question:

"That the Mashu mountain(s) does so [keep watch over the rising and setting of the sun] 'every day,' as translated by Heidel, Speiser, and others, is obviously wrong. Even if we stipulate, for the sake of peace, the idea of a terrestrial mountain, the Sun is not in the habit of rising on the same spot every day, and it needs no profound astronomical knowledge to become aware of this fact."[55]

Other scholars, such as Christopher Woods, forthrightly accept the text's literal statement that the twin-peaked mountain was the very place "the sun both rises *and* sets (IX 45)." At the same time, however, he would interpret the seemingly anomalous imagery as figurative in nature:

"At issue is the phenomenon of *coincidentia oppositorum*, a cross-culturally observed mythological theme in which the paradox of divine and mythical reality is conceptualized as a union, and thereby transcendence, of contraries."[56]

Such gobbledegook may well suffice as a theoretical "explanation" in modern Mesopotamian scholarship, but it should not be allowed to go unchallenged in any study purporting to be a work of serious scientific analysis. The plain fact of the matter is that the account from the *Gilgamesh Epic* reporting that the ancient sun-god both "rose" and "set" within the same twin-peaked mountain is perfectly consistent with the testimony adduced above to the effect that the ancient sun-god stood fixed in the same spot in heaven, where it appeared to "rise" and "set" in the very same place.

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[55] *Hamlet's Mill* (Boston, 1969), p. 293.
[56] C. Woods, *op. cit.*, p. 197.

(Two) Ancient accounts of the prototypical sunrise relate that it was accompanied by a "greening" of the cosmos.

The extraordinary nature of the ancient experience of the sunrise is nowhere more evident than in the countless traditions that describe it as marked by a "greening" of the cosmic landscape. The following passage from the Egyptian Book of the Dead will find parallels around the globe:

"[Harmachis], [when] thou risest in the horizon of heaven, a shout of joy to thee from the mouth of all peoples. Beautiful one, becoming young at [thy] time in (or as) the disk within the hand of thy mother Hathor…[Thou] risest in the horizon of heaven, thou sheddest [upon] the two lands emerald light [mfkt]."[57]

The greening of the cosmos that marked the prototypical "sunrise" was such a dominant theme in Egyptian consciousness that it was duly referenced in literary descriptions of the sunrise in the New Kingdom—this despite the obvious fact that a greening effect is nowhere to be found along the eastern horizon. The following passage invoking the sun-god is representative in this regard: "Hail to you who rises in Turquoise" (*jnḏ ḥr.k wbnw m mfkt*).[58]

Such traditions represent perhaps the best-kept secret among Egyptologists, inasmuch as they are rarely mentioned or subjected to serious analysis from a cross-cultural perspective. Joris Borghouts, for example, simply lets the matter drop after stating in matter-of-fact fashion: "In certain hymns the sun is said to strew the sky with turquoise."[59] In his voluminous collection of solar hymns from the New Kingdom, Jan Assmann declines to investigate the possible natural origins of this greening effect at all, confining his discussion to a single footnote: "On the meaning of 'turquoise' in sun

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[57] E. Budge, *The Book of the Dead* (New York, 1967), pp. 5-6.
[58] TT 53 as translated in J. Assmann, *Egyptian Solar Religion in the New Kingdom* (London, 1995), p. 15.
[59] J. Borghouts, *The Book of the Dead* (Shouting), p. 52, citing Budge *Book of the Dead* 11.10.

hymns cf. Zandee, *Amunshymnus*, 361-364."[60] The referenced expert Jan Zandee, meanwhile, offers no insight at all as to how to explain his own finding that "In vielen Belegstellen hängt 'Türkis' besonders mit der aufgehenden Sonne zusammen."[61]

Truth be told, the Egyptian descriptions of the greening of the cosmos at the time of the prototypical sunrise are central to a proper understanding of Egyptian ideas of cosmography and strike at the very heart of the original message of the earliest funerary hymns—not to mention their general trustworthiness as an accurate reflection of the natural world as originally experienced. Yet from the vantage point of modern Egyptology, the greening of the cosmos is effectively dismissed as imaginative hyperbole together with the sun-god's boat, the doors of heaven, and the raging Eye of Horus. Such an understanding of the Egyptian texts would seem to make fantasists or liars out of the earliest Egyptian scribes. This position, in turn, begs the following question: If the Egyptian scribes can't be trusted to accurately describe the ancient sunrise—the alleged focal point of their entire astral-based funerary religion according to the conventional view—can their testimony be trusted on any score?

(One) Archaic pictures of the sun bear no resemblance to the current solar orb.

Although it seems patently obvious that the aforementioned nine reasons, if found to be based upon an accurate reading of the ancient sources, are sufficient to overturn the orthodox view of the recent history of the solar system, we are ever on the lookout for a "smoking gun" that will make the revisionist case beyond all question. It is our opinion that the requisite *coup de grâce* is provided by the wealth of evidence documenting that *archaic pictures of the "sun" bear no resemblance to the current solar orb*.

Among the most durable and plentiful artifacts from the ancient Near East are the so-called cylinder seals, engravings cut into various types of stone that originally served as

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[60] J. Assmann, *op. cit.*, p. 115.
[61] J. Zandee, *Der Amunshymnus des Papyrus Leiden I 344 verso, Vol. 1* (Leiden, 1992), p. 364.

signs of property ownership and are generally regarded as among the "high points of Mesopotamian craftmanship."[62] Deriving from earlier stamp seals, cylinder seals first appeared in the fourth millennium BCE and remained popular for some three thousand years.[63] Early cylinder seals show images commonly believed to represent the solar orb (see figure five).[64] It remains an open question why the ancient artists would select this particular image to represent the Sun, as the current solar orb does not display a central dot. That said, the very same image is ubiquitous around the globe, occurring in both historic and prehistoric contexts.[65] In the earliest pictographic scripts in Egypt and China, moreover, this very sign served to denote the sun.

Figure Five

Similar questions arise with regard to the image depicted in figure six, which shows a solar disc with an eight-pointed star inscribed in its center.[66] This particular image is especially common in cylinder seals dating from the Old Akkadian period.

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[62] C. Fischer, "Twilight of the Sun-God," *Iraq* 64 (2002), p. 125.
[63] E. Porada, "Introduction," in E. Porada ed., *Ancient Art in Seals* (Princeton, 1980), p. 4.
[64] Adapted from P. Amiet, *La glyptique mésopotamienne archaique* (Paris, 1961), figure 1641.
[65] E. Cochrane, "Suns and Planets in Neolithic Rock Art," in *Martian Metamorphoses* (Ames, 1997), pp. 194-214.
[66] Adapted from L. Werr, *Studies in the Chronology and Regional Style of Old Babylonian Cylinder Seals* (Malibu, 1988), figure III:5 (3.c).

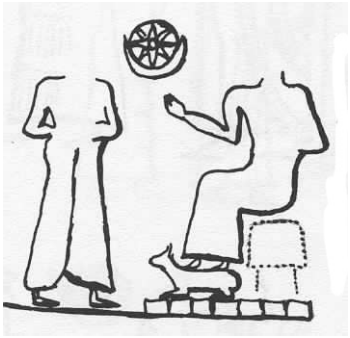

Figure Six

The eight-pointed star, however, is known to represent the planet Venus.[67] The crescent, in turn, represents the god Sin, commonly identified with the Moon. How, then, are we to explain the fact that early cylinder seals seemingly depict the Venus-star as superimposed on the "sun"-disc and enclosed within a lunar crescent? Dominique Collon—a leading authority on Mesopotamian cylinder seals—offered the following commentary on this extraordinary state of affairs:

"From Ur III times onwards, however, the crescent is also often combined with a disc inscribed with a star which is placed within it (star-disc and crescent…). This could either be explained as different phases of the moon or, more likely, is a shorthand for the principal celestial bodies, sun (and star?) and moon."[68]

At this point the open-minded researcher must consider certain basic questions of common sense and logic: How likely is it that the most celebrated skywatchers and astronomers of the ancient world would have insisted upon depicting the three most

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[67] F. Rochberg, "Heaven and Earth," in S. Noegel & J. Walker eds., *Prayer, Magic, and the Stars in the Ancient and Late Antique World* (University Park, 2003), pp. 174-176 writes: "The association of the heavenly bodies with certain deities seems to go back to the very beginnings of Mesopotamian civilization and persists as well to the end. Astral emblems, such as the lunar crescent (Akk. uškaru) for Sin, the eight-pointed star for Ištar, and the solar disc (Akk. šamšatu) for Šamaš, are a regular feature of Mesopotamian iconography throughout its history. These divine symbols can be traced on cylinder seals as early as the Early Dynastic period and as late as the Neo-Babylonian."

[68] D. Collon, "Mond," *RA* 8 (Berlin, 1993-1997), p. 357.

prominent celestial bodies in astronomically impossible positions? Was it sheer perversity alone that inspired the ancient artists to reproduce these particular images again and again?

Gennadj Kurtik is one of the few scholars to even recognize the glaring anomaly presented by these archaic sun-discs with the Venus-star depicted in the center. Here is his explanation of the superimposed celestial symbols:

"Since the period of the Akkade Dynasty (XXIV-XXII centuries BC), …the astral symbol of Inanna (an eight-pointed star) was frequently found inscribed in a circle. Why? The answer is probably in some poetic texts of the New-Sumerian period (XXII-XXI centuries BC); for example, in the hymn by Iddin-Dagan devoted to Inanna her shining in the night is compared with the light of day or the Sun…the attribute of being solar is transferred to Inanna, therefore the solar disk is becoming her symbol."[69]

Unbeknownst to Kurtik and Collon, evidently, is the fact that similar artworks depicting "stars" set within the center of a "sun"-disc are to be found around the globe. Figure seven depicts a so-called "sun"-image from Mesopotamia, thought to originate from around 2300 BCE.[70] Figure eight features a similar image from an Egyptian bowl dating to the predynastic period (circa mid-4th millennium BCE).[71] Figure nine, finally, depicts a common stellar form from the American Southwest.[72]

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[69] "The Identification of Inanna with the Planet Venus," *Astronomical and Astrophysical Transactions* 17 (1999), p. 508.
[70] Adapted from L. Werr, *Studies in the Chronology and Regional Style of Old Babylonian Cylinder Seals* (Malibu, 1988), figure IV:4 (76a).
[71] Eva Wilson, *Ancient Egyptian Designs* (London, 1986), figure 8.
[72] Adapted from Barton Wright, *Pueblo Shields* (Flagstaff, 1976), p. 50.

Figure Seven

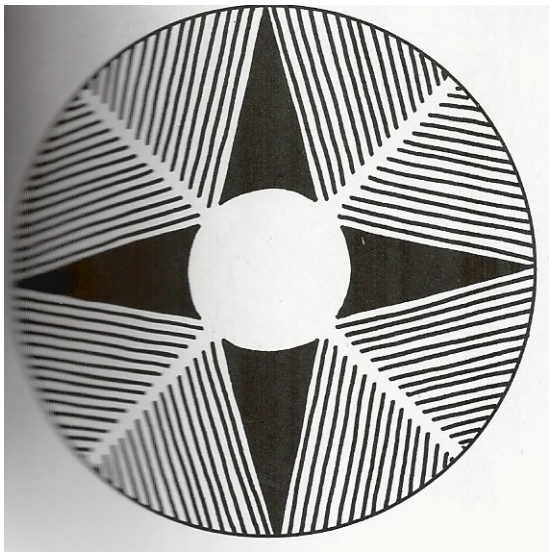

Figure Eight

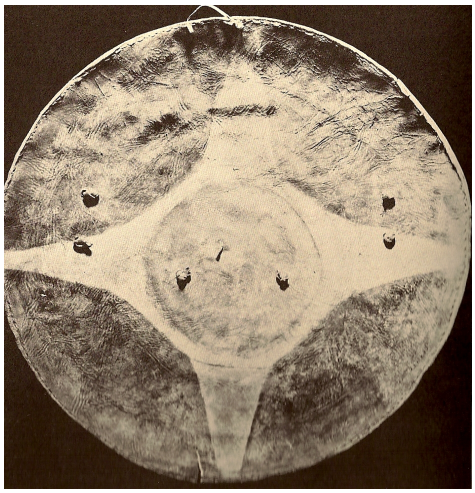

Figure Nine

The resemblance between these three images is evident at once, as is the fact that they bear no conceivable resemblance to the appearance of the present sun. How, then, are we to account for their origin? The mere fact that such images are to be found around the globe and share detailed structures in common argues strongly for the hypothesis that we have to do here with relatively accurate depictions of a former "sun" and *not* with any arcane "shorthand" or artistic metaphor peculiar to the Mesopotamian mindset. Yet the possibility that such seals might faithfully describe the appearance of the ancient sun is never considered.

To the extent that they are remembered at all for their prodigious achievements, the ancient cultures of Mesopotamia and Egypt are best known as the builders of the pyramids and ziggurats and other monumental wonders. Yet precious few among us recognize them as the inventors of writing, the calendar, and scientific astronomy, among other benchmarks of advanced civilization. Granted that the early skywatchers of these two celebrated cultures were not exactly novices in the art of nature-observation, what might we conclude if we were to take their literary and iconographical testimony at face value? The very fact that the ancient sun-god's epiphany was described as accompanied by thunderous sounds and the shaking of heaven and earth would suggest that the phenomenon in question was cataclysmic in nature and had nothing whatsoever to do with the familiar sunrise. A similar conclusion follows inexorably from the ancient

traditions reporting that a "greening" of the cosmos distinguished the prototypical sunrise. The fact that the glorious appearance of the sun-god was described as occurring in the very *midst of heaven* within a twin-peaked mountain or double doors points to a radically different solar system in relatively recent memory. The same conclusion is forced upon us by the widespread traditions of a "fixed" sun.

Yet once the door is opened to the possibility that there might be some truth in the earliest recorded celestial observations from Mesopotamia and Egypt and the various mythological traditions will begin to fit together like a giant stellar jigsaw puzzle. For example, once grant the possibility that a giant crescent formerly appeared in conjunction with the ancient sun, as the archaic cylinder seals suggest, and it suddenly becomes evident why the ancient sun-god was described as "horned" or as a thundering bull or as appearing from within bovine-shaped "doors." The ancient sun-god did indeed display "horns" and the latter played a pivotal role in a unique daily cycle that mesmerized skywatchers around the globe.[73]

To state the obvious: The historical reconstruction advanced here stands in marked contrast to that of modern scholarship in that it takes the ancient Mesopotamian and Egyptian testimony with regards to the manifold structures, sounds, and colors that accompanied the prototypical sunrise at face value—as relatively literal and accurate descriptions of natural history and astronomical reality, albeit as experienced and conceptualized from a religious or mythological perspective. Time will tell which of these two theoretical reconstructions—that advanced from the catastrophist perspective or that advanced by the currently prevailing scientific orthodoxy—will be judged the most trustworthy guide to the ancient sources and physical evidence.

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[73] D. Talbott, "The Ship of Heaven," *Aeon* I:3 (1988), pp. 57-96.