‡7   Century-Long Establishment Mealticket Hoax

Latest Case of THE EXPERTS Insisting Eternally
& Viciously on the Obvious Truth's 180º Opposite

FlatEarth Occultist Babylonian Priests as the Secret
Rigorous-Science Font of Greek Math Astronomy?

A   Traditional History of Ancient Astronomy

A1   Politically dominant historians of ancient mathematical science have glorified Babylonian astronomy & Claudius Ptolemy for most of a *century*: [1] claiming the former was *originator of the three 1ˢ-accurate monthlengths of high Hellenistic astronomy* (e.g., §B2 below; Yale University's Asger Aaboe 1955 *Centaurus 4*:122-125; Princetitute's Otto Neugebauer *Exact Sciences in Antiquity* 2ⁿᵈ ed. 1957 p.157), and [2] ranking Ptolemy, compiler of the **geocentrist-astrological** bible, the *Almajest*, as "***The Greatest Astronomer of Antiquity***": Harvard's Owen Gingerich *Science 193*:476-477 (1976/8/6) & *Isis 93.1*:70-74 (2002/3), copying this superlative — verbatim — from Neugebauer *History of Ancient Mathematical Astronomy* 1975 p.931. So: which **was** the greatest primary astronomy, Babylonian or Ptolemaic? Answer: **neither**. *Each's astronomy was utterly derivative.* Ptolemy we have dispensed with elsewhere (‡8 below), showing that his *Almajest*, which the most influential historians deem "one of the greatest pieces of scientific analysis ever written" (e.g., Neugebauer 1957 p.191), was instead just an able mathematician's mimicry of science, computationally deriving all *Almajest* celestial elements from faked allegedly-outdoor "observations" which he'd circularly calculated indoors **FROM** those very elements! (J.Delambre *Hist. Astr. Moyen Age* 1819 pp.lxvii-lxix; Olaf Pedersen *Survey of the Almagest* 1974 pp.23&258 [later switch: www.dioi.org/jm03.pdf fn 9]; R.Newton *Crime of Claudius Ptolemy* 1977 *passim*.)

A2   The coequal hoax — that Babylon originated historically-vital, Greek-inspiring high astronomy — had an innocent-confusion origin (§B10) but soon developed into such a dominant cult-pretense that, throughout the 20ᵗʰ century, a historian could get published — & thus *funded-sustained* — by concocting any argument that seemed to support it — while opponents (e.g., §A6) risked exclusion[1] from discourse, publication, or worse.

A3   The idea got stranger even while it got stronger politically. But in the new millennium, it faded under *DIO* bombshells, leading to British Museum agreement with our contention that the Babylonian monthlength & yearlength on its ultra-central cuneiform text BM55555 (ACT210) *came from Greece*, not (as hitherto insisted) the other way about: see photo of BM's tag&clay at www.dioi.org/cot.htm#xpnd.

A4   Yet longtime-leading historical-fashion-maven Noel Swerdlow clung to his long-profitable Babylonianism, explaining that *brilliant&original* **SCIENTISTS** were inexplicably disguised as **occultist Babylonian priests**.

A5   MacArthur Genius Swerdlow (CalTech! [Dep't Hum&SocSci]), as quoted here (DR emph, caps, commentary) from a review of his 1998 imprecisionfest P.U. book (which even fellow Babylonianists Aaboe&J.Britton rated excrementally: 1998/11/28; www.dioi.org/j804.pdf §§B28-B31):

> *That the most sophisticated natural science of antiquity, mathematical astronomy, arose from the systematic recording of portents and omens in the service of prognostication is against all received wisdom but is nonetheless true.* The discussion of two scribes of Enūma Anu Enlil contained more **rigorous science** than speculations of twenty philosophers speaking Greek, not even Aristotle excepted. . . . I believe that most historians and philosophers dote upon childish fables and fragments of pre-socratics, requiring no knowledge of mathematics [which should hardly repel Swerdlow: www.dioi.org/jm02.pdf fn 8 & www.dioi.org/det.htm#tfst] and less taxing to the intellect. *The models of . . . Aristarchus were clever but useless.*[2] [Just key to heliocentrism's revealing for the 1ˢᵗ time the universe's vastness! — *Griffith Observer 84.1* = www.dioi.org/g841.pdf .] And the work of Hipparchus was [echoing §A1, to ensure NS's MacArthur] in great part an assimilation of Babylonian *methods* [!!] and [vs www.dioi.org/vols/wb1.pdf & www.dioi.org/jd12.pdf eq.3] *parameters* [§A1], **which formed the foundation of Greek mathematical astronomy**. [Neugebauer 1975 p.347 calls the evidence for his cult's identical conclusion "irrefutable".] **The origin of RIGOROUS technical science was not Greek but Babylonian.**

While marveling at this logic-flouting Revelation-of-Genius, palming off servile&sterile Neugebaurian orthodoxy as gutsy rebellion (unretractable since archons would *rather ever-mislead readers than admit error*: www.dioi.org/jL09.pdf §I6), bear in mind Swerdlow calls **OTHER** scholars *kooks&liars* (www.dioi.org/ns.htm). To preserve their by-now too-transparent joke, such sly slanderers *never* cite *DIO*'s easy-math **exact** derivations, *using attested Greek methods and/or data* (§B4 below), of every one of scores of digits in at least 10 long-wellknown but hitherto-unsolved anciently-adopted yearlengths, monthlengths, lunisolar ratios (‡12 below; www.dioi.org/jm03.pdf §§G&I6&I16&I31-I38), including the three outstanding "Babylonian" lunar motions (§B4 below), while Babylonianists *haven't traced a one* by their **UN**attested, **PURELY speculative** rough Babylonian "methods" — unable anyway (**www.dioi.org/thr.htm#cpcc** & www.dioi.org/jm03.pdf fn 122) to explain Greek lunar periods' 1ˢ precision.[3] Swerdlow's empty promo caps his faith's bankrupcy: nought but bald insistence to show for 30ʸ of cultbound dryholing.

A6   Contra cultists, we'll find below: Babylon's astronomy drew its reliable astronomical elements from Greeks. (**NB**: The most able and unpolitical scholars [*none historians-of-science*] never fell for Babylonianism: e.g., Hugh Thurston, Christopher Walker; openly scorned by D.Dicks at www.dioi.org/j411.pdf, & *Nature*'s P.Ball in *Atlantic* 2016/2/10.)

B   Babylonian Astronomy

B1   Babylon originated dividing the circle into 360 "degrees", ultimately adopted by Greek science c.300 BC.

B2   Babylon's other gift to science was its long preservation of eclipse-records (also planets' stationary points), which J.Koch estimated in 1989 (*Isis 83.3*:474) began c.1350 BC, a date shown in 2014 to agree (www.dioi.org/thr.htm#lcjk) with the limit of ready use of the 600ʸ tables of Hipparchos, who we know used Babylon's lunar eclipse data (e.g., *Almajest* 4.11&6.9). Now-lost early records (one of them 1245 BC!) were used by classical-era Greek astronomers to accurately gauge the civil month, anomalistic month, & eclipse month (§B4): all to 1ˢor better! Irony: this greatest of Babylonian astronomical contributions is the very one which no Babylonianist accepts, even while unable to derive any of the 3 monthlengths

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[1] See Dicks at www.dioi.org/j427.pdf §A.

[2] That a fawning bigot should receive a MacArthur (directly due to the fawning) — thereby enabling his determination to sway others to share his bigotry — typifies the sorry state of suckup-era academe.

[3] System A's slightly less accurate monthlength may be via Babylon, but obtained by inferior use of Greek method: www.dioi.org/jb12.pdf .

by any other credible way.
[Comparisons of Greek values to modern: www.dioi.org/jL09.pdf §B.]

B3   But the case for Babylon as major intellectual contributor to Greek astronomy collapses as soon as we survey (*DIO 1.2* §E3) those numerous features of the latter, which are conspicuously absent from Babylonian science: transit observations, empirical solstices&equinoxes, correct cities&observatories' latitudes; no trig (or spherical trig) at all! That last disability forced Babylonian ephemerides to track celestial bodies' eccentric motion not by smooth curves but by crude zigzag functions. Or even, more primitive yet: step functions! Univ.London's D.Dicks emphasized there are (suspiciously) *no explanations of how Babylonian tables' bases were empirically founded*: www.dioi.org/j411.pdf §C, www.dioi.org/jd12.pdf §H. (*Unlike Greek astronomy*: ‡6.) Given such lacunae, one wonders if Babylonian astronomical tables were created for the use not of astronomers but of omen-divining astrologers. Suspicion confirmed by Babylon's very order of the planets being astrological, good-to-bad: Jupiter-Venus-Mercury-Saturn-Mars. The late Christopher Walker observed: ***Babylon just had no scientific physical cosmology***. Since astrology accelerates under depressing social conditions, one recalls that Greece crushed Babylon in war during the 4th century BC. Which raises more questions: [i] Which of the two civilizations had superior technology? [ii] Does enslavement trigger scientific creativity?

B4   The motion of the Moon was impressively well tracked in antiquity. To explain ancients' accurate lunar periods, orthodox historians long proposed that they musta been found ***in some entirely unattested fashion*** from records of crude Babylonian horizon phenomena, ignoring Greeks' attested&precise use of ordmag-1000^y-separated eclipses (*Almajest* 4.2&6.9). All 24 digits of the 3 previously-unsolved anciently-adopted lunar relations (listed here at ‡6 §E1) were in 2002-2003 simply, naturally, unmanipulatively, & PRECISELY solved (‡6 §E2) by attested Greek methods, while the unattested, purely speculative proposed Babylonian methods have solved not one of the 3 relations' 24 digits.

B5   For solar periods, we do not need to speculate on origins: two lists of anciently-adopted yearlengths have been preserved by the Vatican (fully transcribed at Neugebauer 1975 p.601, or www.dioi.org/j913.pdf p.31), providing those of (in the order given) Meton, Euktemon, Philip, Apollinarios, Aristarchos of Samos, Chaldeans, Babylonians, Sudines (Babylonian). What do we learn from these lists? Oh, nothing much — except: [a] Their date. [b] Greek empirical elements preceded Babylonian. [c] In antiquity, Kallippos was not known to have observed a solstice. Reasoning: [a] The lists cite Sudines (c.240 BC) not Hipparchos (1st equinox = 162 BC), so the lists' date = c.200 BC±40^y. [b] Lists are chronological, so we know astronomical elements from at least 5 Greeks predated Babylonian "science". [c] Kallippos is not listed, even though he established a Julianic 365^{d}1/4 calendar 284^y before Julius Caesar. Comments: [a] The famous astronomer Hipparchos adopted a durable yearlength, so the lists must predate him. [b] No previous historian has noticed the chronological nature of the lists. (Ignored by Babylonianists who professionally discern Babylonian origins in every corner, e.g., below §B6.) [c] Hipparchos also neglected Kallippos' accurate 330 BC June 28 dawn Summer Solstice (www.dioi.org/jk01.pdf Table 3) in favor of comparing his own 135 BC SSolst instead to those inaccurate day-epoch-truncated SSolstices of Meton&Aristarchos (*ibid* §Q). Kallippos was Alexander the Great's astronomer, thus predictor of the famous Arbela 331 BC Sept 20 lunar eclipse (11^d ere the Battle of Arbela made Alexander Babylon's King). Kallippos kept secret his calendar's empirical basis. (As the Vatican lists are perhaps in continued-fraction disguise for secrecy.) So ancients may've figured his uncomplex yearlength was just a guess. But Toomer *Almagest* 1984 p.12 notes Kallippos' calendar begins at the 330 BC SSolst. Which coincided with New Moon, *ideal for a* **luni-solar** *calendar*: both events near June 28 1/4 (www.dioi.org/jk02.pdf §J3 & Table 3). Comparison to Meton's day-epoch-truncated (*ibid* §E & Table 1) 432 BC June 27 3/4 SSolst computationally explains his yearlength (www.dioi.org/jm03.pdf §I31): $(37255^d1/2)/102^y = 365^d1/4$. I.e., the protoJulian calendarist was also an able observer.

B6   "Klimata" are parallels corresponding to longest-days at their latitudes as found via sphtrig. Historian-of-science Neugebauer 1975 p.304 claims a Babylonish scheme solves Hipparchos' klimata, but it *fails to fit most of his 14 data* while nonhistorian A.Diller's solution, *1st proof of Hipparchos' use of sphtrig*, **FITS ALL 14**, thus dissed as "absurd" by half-fit Neugebauer *ibid* p.734 fn 14 ! NYU's A.Jones in *J.Hist. Astr 33.1*:15-19 [2002] attacked Diller's discovery, too, with a **nontabulated** theory — which **also didn't fit most Hipparchan data**. All 3 theories' fits are tabulated at www.dioi.org/jm03.pdf p.54, nonfits in *italics*. **Notably, no History-of-science journal claims this devastating table errs**. **But none lets its readers even KNOW OF such a revealing&embarrassing comparison**. *Just another chapter in the ever-inspiring tradition of history-of-science-journal integrity.*

B7   Neugebauer 1957 p.158 claims longest-day "klimata" exhibit "direct survival of Babylonian methods", noting Babylon's klima corresponds to longest day/shortest day = 3:2, a crude ratio correct for (by sph trig [§B6 above], *which Babylon lacked*) Babylon's geog latitude = 35° (Ptolemy's *Geographical Directory* 5:20:6). But it's grossly off: high by 148 nmi, c.2°1/2! (Greek scientists knew their observatories' latitudes to ordmag 1 nmi: ‡4 §C3; www.dioi.org/j413.pdf Table 3.) If Babylon was influencing Greek science *at all*, how'd the latter never learn even so much as where Babylon **IS**?! Nowhere in Babylonian records is (inland) Babylon's latitude or Earth's circumference cited, since both imply the Earth is round, which Swerdlow's "rigorously scientific" Babylon hadn't yet realized.

B8   The most central piece of astronomical cuneiform clay is BM55555, preserved at the British Museum. It bears [1] a yearlength which has only modernly (1982) been traced to Hipparchos (www.dioi.org/j116.pdf §A), and [2] the famous "Babylonian" monthlength known from *Almajest* 4.2, which has even more recently (2002) been traced to Aristarchos (www.dioi.org/jb11.pdf §A6), whose work, being written on papyrus, has long since been lost, so only by analysis of surviving scraps has it been reconstructed — most thoroughly in the 2020 January *Griffith Observer*: www.dioi.org/g841.pdf, and www.dioi.org/au.pdf . Both new *DIO* proofs of Greek lunar&solar priority are since reflected in the British Museum's updated tag on BM55555, now on permanent display on this explicit basis. (Photograph of clay&tag may be perused at www.dioi.org/cot.htm#xpnd.)

B9   Ancient astronomy historians have an odd but consistent attraction (e.g., §A2 above) to 180°-opposites of demonstrable truth. (Numerous ***seemingly-incredible*** examples: www.dioi.org/jm02.pdf §N.) **How** did History-of-science orthodoxy get so far into Babylonianism as to border on imitating satire (e.g., MacGenius at §A2 above), and operating under the auto-default presumption (e.g., §B4) that all ancient astronomical mysteries are best investigated by just ferreting-out the Babylonian-in-the-woodpile. Here's how: [1] Brilliant decipherment (Neugebauer 1957 pp.103f, 1975 pp.348f) by Jesuits J.Strassmeier, J.Epping, & F.Kugler (*Babylonische Mondrechnung* 1900) of Babylon&Uruk cuneiform texts found elements matching Greek ones, but the clay was earlier than surviving explicit Greek sources, so the elements' Babylon origin was *assumed*. [2] But immutably immune to ever-mounting counterdata (§B3) was this madness' insistence on Babylonian intellectual priority, despite unnoted fatal vulnerability in its tacit base: *baked clay outlasts papyrus*.

B10   The already-above-cited contrary data (& much more) which overkill-disprove serious Babylonian contribution to high mathematical astronomy were summarized in 2018 at www.dioi.org/jm03.pdf fn 120 (caps&emph added):

> Do panBabylonianists never-ever wonder just why: Babylon had no Aristarchos? No Archimedes? No Apollonios? Not even a Seleukid Euklid? No trigonometry. No transit data. No observed solstices. No vertical instruments. No knowledge of Babylon's latitude . . . . No serious astronomy until after Greek conquest . . . ? Was . . . Babylon's [greatest] gift to science its fortunate preservation of [early eclipses-times (§B2) & high] Greek-astronomy glimpses [§B8] . . . **ON DURABLE CLAY, NOT FRAGILE PAPYRUS?**

Missing the Babylon-vs-Greek ***discovery-priority significance*** of this childishly simple point, historians-of-science wasted most of a century plunging oneway into a cul-de-sap.