

## ‡10 Scientists' & Historians' Non-Crossgermination Curiosity Vs Fear: Why There's Minuscule Cooperation

### A Helpful Historians-of-Science

**A1** My debt to historians-of-science is unquantifiably great. But their club's shun ([www.dioi.org/ac.pdf](http://www.dioi.org/ac.pdf)) of aliens — e.g., van der Waerden, H.Thurston, R.Newton, A.Diller — is vile&revealing. (And see University of London's David Dicks at [www.dioi.org/j411.pdf](http://www.dioi.org/j411.pdf) §B1 & [www.dioi.org/j427.pdf](http://www.dioi.org/j427.pdf) §A7. on the same clubby&dishonest noncitation-practice.) Thus, our thanks for the welcome exceptions:

**A2** Researches of historians (& scientists) laid the basis for most of what I've achieved in scientific history, esp. *Hist. Ancient Math. Astron.* [HAMA] 1975 by O.Neugebauer, working with the crucial aid of Gerald Toomer, who in 1984 issued his meticulous English translation, *Ptolemy's Almagest*. His huge 1975&1984 labors made ours more reliable, & our geographical work ([www.dioi.org/jje03.pdf](http://www.dioi.org/jje03.pdf)) was vitally accelerated by Len Berggren & Alex Jones' scholarly 2000 *Ptolemy's Geography*.

**A3** *Greek* solstices produced ([www.dioi.org/jl16.pdf](http://www.dioi.org/jl16.pdf) eqs.1-6) the yearlength on *Babylonian* cuneiform text BM55555 = ACT210 (thus now on permanent British Museum display), which historian J.Britton (with the knowledgeable and amiable support of Yale Univ's Asger Aaboe), defying Muffia omertà, reluctantly but honestly verified by applying his lifetime expertise to show the cuneiform was of the tablet's *DIO*-proposed period, c.100 BC±35<sup>y</sup> (*ibid* eq.9). Britton also refereed the paper's math & recommended its publication: §B4.

**A4** G.Graßhoff ended, in RN&*DIO*'s favor, the centuries-long tiff re who observed the Ancient Star Catalog, by proving a massive statistical link between it & Hipparchos *Commentary* stars, as Toomer admirably acknowledged at 1<sup>st</sup> sight.

**A5** *DIO*'s continued-fraction decipherment, of the 2 Vatican mss of Greek yearlengths (brought to *DIO*'s attention by *HAMA* p.601) got confirmatory boosts from Neugebauer's discerning  $\xi$  as 60<sup>th</sup>s (*ibid* p.602; *DIO*'s appreciation: [www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) §G2), and from Owen Gingerich, re flexible signage. *DIO*'s solutions: [www.dioi.org/j913.pdf](http://www.dioi.org/j913.pdf) Tables 1&2 (OG's aid: fn 7). Vatican-mss-based *ibid* Table 2 List A's contribution to 4way-confirmation of P.Tannery's 19<sup>th</sup> century discovery of Aristarchos' 4868<sup>y</sup> Great Year: [www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) fn 88.

**A6** *DIO 11.1* ‡3 ([www.dioi.org/jb13.pdf](http://www.dioi.org/jb13.pdf) eqs.1&3) discovered how Hipparchos got his amazingly accurate equation, 5458 synodic months = 5923 draconitic months, by comparing eclipses: Babylon's -1244/11/13 vs Hipparchos-observed&cited -140/1/27. In 2002, A.Jones volunteered to warn *DIO* of what he conventionally saw as our novice-mistake, expertly explaining Babylonian tables for that equation's use, traditionally arguing they pre-date Hipparchos. *DIO 11.1* showed this ignored multiple pro-Hipparchos evidences (*ibid* §C), and found (*ibid*, §§D1-D2) that the Jones-cited tablets were the ones that were undated-on-the-clay: a revealing discovery that wouldn't have occurred absent Jones' advice. (The 3 anciently-adopted monthlengths long credited to Babylon [synodic, anomalistic, draconitic], originated with Greeks: draconitic from Hipparchos [*idem*], other 2 from Aristarchos [above ‡6 §D; [www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) §G4].)

**A7** Jones & Dennis Duke found *DIO* had proposed mathematically fitting but unhistorical solutions for *Almagest* 9.3's mean motions of Mars&Jupiter, for which they had found the actual solutions. On hearing this from Duke by phone 2003/9/17, *DIO* faxed congratulations to Jones within the hour and soon established a \$1000 prize for each such future replacement(none since) in a *DIO 11.2* set of *DIO* proposals ([www.dioi.org/vols/wb2.pdf](http://www.dioi.org/vols/wb2.pdf) p.33), wiring \$2000 (\$1000/planet) to Jones retroactively. No reply. (History with full

math: [www.dioi.org/jb24.pdf](http://www.dioi.org/jb24.pdf) §§F3-G3.) Unbeknownst to Jones&Duke, who'd received preprints, *DIO 11.2* hadn't yet been mass-mailed, which allowed just-in-time addition of the correct Jones-Duke Mars solution to *DIO 11.2*'s text, while retaining *DIO*'s full prior unhistorical Mars solution, to encourage humility by example. Thus, intentionally or no, Jones&Duke rendered *DIO* a huge favor.

**A8** Our foregoing appreciations are ever-unrequited; but nonetheless owed, thus here gratefully imparted.

## B Helpful Scientists

**B1** In 1976 History-of-science's *Dictionary of Scientific Biography 13*:321 unveiled the 1<sup>st</sup> known Autumn Solstice ([www.dioi.org/j129.pdf](http://www.dioi.org/j129.pdf) fn 24; [www.dioi.org/j13a.pdf](http://www.dioi.org/j13a.pdf) p.177). The 1991 *Journal for the History of Astronomy 22.2*:119 Winter Equinox matched it ([www.dioi.org/j139.pdf](http://www.dioi.org/j139.pdf) §B4). While helpfully righting such jokes, we note they suggest historians-of-science need skilled **and critical** scientists in their midst, a step this hermit field would rather die than commit-to, fearing internal embarrassments. Thus unleashing external ones. (E.g., [www.dioi.org/jm01.pdf](http://www.dioi.org/jm01.pdf), esp. p.9.) Conversely, science colloquia can welcome historians-of-science, to stem the decline in scientists who love history.

**B2** Eratosthenes' Earth circumference  $C = 256000$  stades, vs real  $C = 216000$  stades. For centuries, scholars alibied this enormous discrepancy by cheating: tampering with the yardstick, shrinking the stade to force his  $C$  to equal real  $C$ . But in 1982, *DIO* found, using a **standard** 185 meter stade, air-bending of light explained his too-big  $C$  **AND** antiquity's too-small other widely-adopted  $C = 180000$  stades (Ptolemy). All within 1%. Pieces of the new solution have appeared in *ArchHistExactSci*, *AmerJPhysics*, *SciAm*, ubiquitous physics textbook Halliday&Resnick 1990s, etc. Yet for 40<sup>y</sup>, historians-of-science have refused to cite the solution (*Griffith Observer 82.8*:9-16 p.16).

**B3** Via fractional-endings, R.Newton proved Ptolemy stole Hipparchos' star catalog ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) §I). Sample giveaway degree-fraction oddities: untampered latitudes have 10 times more 15's&45's than longitudes, which have overmany 40's, and (*reverse of latitudes*) twice as many 10's as 30's! *JHA* reaction: waste 100+pp attacking RN.

**B4** Hipparchos' analyses of eclipse-trios produced once-mysterious numbers: 327 2/3, 247 1/2, 3144, 3122 1/2. *DIO 1.3* ([www.dioi.org/j139.pdf](http://www.dioi.org/j139.pdf) eqs.10-24) precisely reconstructed how. Experts Britton&Thurston trace-confirmed the math, later published (2002) by *Isis* Editor M.Rossiter. Cult silence or ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) §D) worse since.

**B5** Vatican mss of ancients' yearlengths (§A5): unsolved for centuries 'til *DIO 9.1* ‡3 ([www.dioi.org/j913.pdf](http://www.dioi.org/j913.pdf) Table 2) got results coherent&**confirmable** ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) fn 88). Jones' reaction (*ibid* §§G8-G11 & fn 87): [1] detail old tries that never solved the mss' data; [2] noncite *DIO*'s new solutions, while [3] talibombing their data-basis by **tampering** (*ibid* §G8): erasing all mss' accents! (Doing so to, e.g., *Almajest*, would yield gibberish, since accents signified inverted integers.)

Cult-desperation to deny frustratingly ineluctable alien math was never more transparent.

**B6** For the 36<sup>h</sup> (!!!) error in Ptolemy's "observed" 140 AD solstice, Neugebauer #1 acolyte, MacArthur-blessed N.Swerdlow, offers (*JHA 12*:59-63, 1981) an alibi (irrelevant to Ptolemy's just-as-gross & just-as-indoor-faked 3 equinoxes [[www.dioi.org/j801.pdf](http://www.dioi.org/j801.pdf) ©1]): **nil declination-motion at solstice**. So *DIO 1.1* (1991) asked ([www.dioi.org/j115.pdf](http://www.dioi.org/j115.pdf) fn 20) if NS knew the standard Equal-Altitudes method (Bowditch *Navigators*). Simple (as at ‡5 §C3): toss a ball up at 0<sup>s</sup>, catch it at 4<sup>s</sup>: it peaked at 2<sup>s</sup>. (*DIO 20* ‡2 has a new formula for orbit-ellipticity's effect [about 1<sup>h</sup>] on the solstitial method: [www.dioi.org/jk02.pdf](http://www.dioi.org/jk02.pdf) eqs.10-13.) NS repeats (*JHA 20*:29-60, 1989) his amateur error (quadratic's extremum indiscernable!) to alibi Ptolemy's clumsiest fake: 2 dates **37<sup>d</sup> apart for the same event** (136 AD Venus max-west-elongation: *Almajest 10.1*-vs-2).

The MacArthur Foundation deemed Swerdlow's apology a work of Genius.

**B7** The same *DIO 1.2-3* issue advising on *JHA*'s Winter Equinox (§B1) also discovered ([www.dioi.org/j139.pdf](http://www.dioi.org/j139.pdf) fn 288; [www.dioi.org/jg01.pdf](http://www.dioi.org/jg01.pdf) §B) that the 1987 *JHA*'s

massive J.Evans 64pp (!) assault upon R.Newton&DR put the wrong sign on its 21' parallax correction to Evans' 1981 lunar observation, adduced to illustrate skeptics' folly in thinking Ptolemy-sized ordmag 1° errors were weirdly atypical in antiquity. *DIO* corrected the parallax signs for Evans' observation and for 2 similar observations by Hipparchos ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) §B7), thereby hypershrinking errors which Evans thought were -33'&+33'&-40' to merely -2'&+1'&+2'. (At §B11, note *DIO*'s like rescue of another historian-of-science's amateur astronomy.) Despite reminders to explain (e.g., [www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) §B), Evans so fears truth he's hidden "my notes from that evening" for 30<sup>y</sup> ([www.dioi.org/hs.pdf](http://www.dioi.org/hs.pdf) §F): never-help-The-Enemy bonding, which in 2013 helped earn him *JHA*'s Editorship, where he's *preserving predecessor Hoskin's integrity-tradition*.

**B8** In 2002, New York University's Alexander Jones attacked non-historian-of-science-clubmember Aubrey Diller's 1934 club-loathed discovery that Hipparchos used sphtrig & a correct if unattested 23°2/3 obliquity, to solve Hipparchos-Strabo's klimata (correlating about a dozen latitudes with longest-days). Jones proposed instead using Eratosthenes' attested but false obliquity while fudging all latitudes by 100 stades, publishing this without even a table exhibiting the theory's many non-fits, & without statistical analysis. *DIO* shortly made an extremely friendly phonecall to Jones to offer what *JHA*'s breakfast→lunch-refereeing ([www.dioi.org/pm3.htm](http://www.dioi.org/pm3.htm)) hadn't: warn him that least-squares analysis showed no choice of obliquity could fit all his 100-stade-fudged klimata, and no other choice of stades-fudge-constant could fit same for Eratosthenes' obliquity. Contrast: Diller's solution fits **all 14** Hipparchos klimata while Jones' fit **under half** ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) Table 1: non-fits in *italics*). Jones fled contact in 2009, claiming over his shoulder (*ibid* §C11) that Strabo, not Jones, is unreliable!

**B9** Gingerich promoted on *Nature*'s 2000/11/16 cover an odd method for orienting ancient Egyptian pyramids. *DIO*'s DR & Keith Pickering instantly informed *Nature* its math was flawed. Gingerich creditably agreed — but then said *DIO*'s simple method (*Nature 412*:699, 2001) would never've been published on its own ([www.dioi.org/g835.pdf](http://www.dioi.org/g835.pdf) = *Griffith Observer* 2019 May disproved that slur).

**So *JHA*'s #2 Editor OKs printing oddball mismatch but not simple valid math.**

**B10** *Journal of Astronomical History & Heritage* in 2014 asked *DIO* to referee a paper (ultimately *JAHH 17*:326-338, 2014) which tried to bolster history-of-science's too-long&deeply-invested-for-retraction ([www.dioi.org/j43f.pdf](http://www.dioi.org/j43f.pdf) §E) cult-myth that Ptolemy observed outdoors. The *JAHH* paper's case was just the un-novel & un-dispositive fact that since some *Almajest 7.3* star declinations were observed at his era he coulda observed them. So *DIO* showed he couldna: vainly trying to protect *JAHH* from disgracing itself, *DIO*'s ref report warned that Ptolemy's -14'-erroneous 30°58' adopted latitude (*Almajest 5.12*&13) would've caused -14' error in declinations he observed, but "his" data instead show mean error +4'.0±2'.0 ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) Table 2). *JAHH* made no change, so *DIO* submitted a paper detailing the point. But *JAHH* feared publishing anything upsetting to Ptolemist orthodoxologists. (Paper printed at [www.dioi.org/jm04.pdf](http://www.dioi.org/jm04.pdf) incl. *JAHH-DIO* interaction, ending with *JAHH* block of our email address.)

**B11** On 2018/12/25, *DIO* wrote an amiable, Christmasy letter ([www.dioi.org/rfw.pdf](http://www.dioi.org/rfw.pdf)) to a member of Johns Hopkins Univ's History-of-science Dep't, who has been deputed to write a bowdlerized history of JHU, omitting (no reply to DR's 2019/3/14 email [www.dioi.org/xxz3e](http://www.dioi.org/xxz3e) offering the hard documentary evidence) that **JHU PRESIDENTS critically protected for decades the two top science frauds of the 20<sup>th</sup> century**. That unsupervised JHU department, when tested by *DIO* 1<sup>st</sup>hand on 2018/10/4, didn't exactly evidence sharp knowledge of basic science! — [www.dioi.org/jhya5.pdf](http://www.dioi.org/jhya5.pdf). Though enraged (*idem*) Dep't Chair María Portuondo's 2009 *JHA* article & UnivChi book contributed original historical progress by showing 16<sup>th</sup> century Spanish Empire astronomers effected competent longitude measures via lunar eclipses, DR's Xmas letter noted that her numbers create [a] western Moonrise (!), & [b] non-trivial, unaccounted-for systematic errors (c.0<sup>b</sup>.2) in her results, due to naïve assumption that the Spanish had used Local Mean Time. (As

any scholar with experience in pre-Reformation astronomy knows: before the pendulum clock, event-times in-the-field were recorded in Local Apparent Time.) *DIO*'s correction to her conclusions by including the Equation of Time (LAT–LMT) reduced her systematic errors to virtual nullity: [www.dioi.org/rfw.pdf](http://www.dioi.org/rfw.pdf), & [www.dioi.org/jhb.htm#vnqt](http://www.dioi.org/jhb.htm#vnqt). (Parallel prior *DIO* improvement of mis-reduced observations: above at §B7.) *DIO* proposed that its name be kept out it, so Portuondo would receive the good news of her explorers' impressive accuracy unclouded by modern personalities. The proposal is ignored: no *JHA* correction will be made. And, despite *DIO*'s admiration of Portuondo's positive contributions (above), she cannot ascribe any to *DIO* without offending archons and risking loss of club membership. Such priorities account for the lack of cross-germination — and thus for incurability of the history-of-science field's truly embarrassing scientific incompetence (and thus hermitic shyness), of which scientists who encounter club-members have long been eye-rollingly aware.

**B12** In 1991 appeared double-evidence ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf), §C12) that trigtables & calculations accurate to 1'' existed in the 2<sup>nd</sup> century BC. This history-of-mathematics revelation — like Diller's (§B8) — has fallen on stonewally History-of-science ground.

**B13** History of science Society's flagship journal *Isis* in 2015 published with false attribution a 2008 *DIO* finding, and in 2016 attacked Pascal Gosselin (1790), the Max Planck Inst, & (primarily) DR as all "deluded" for producing evidence that ancients fixed longitudes to ordmag 1° accuracy by eclipses. *DIO* wrote *Isis* ([www.dioi.org/jm01.pdf](http://www.dioi.org/jm01.pdf)) on 2015's appropriation and on *Isis*' incredible 2016 delusions re adding-vs-subtracting longitudes & re solar-vs-lunar eclipses. *Isis*' Editor emailed he'd refuse to answer us & its 30-person editorial board unanimously agreed not to correct anything ([www.dioi.org/jhya5.pdf](http://www.dioi.org/jhya5.pdf)).

**B14** In history-of-science, critical scientists' help is routinely ignored since denial-coverup is ever available as fallback in the event of error or valid noncult solution: neither will ever matter if the cult & the (incredibly) even less-numerate press stay mum. At §A we saw responsive scientists & etc learning from historians-of-science themselves too superior to reciprocate (§§B2-B12) by learning anything from outlanders. The issue isn't: is truth the history-of-science cult's top priority? The issue is: is it a priority at all?

**B15** Unprotected by *JHA* pseudo-refereeing ([www.dioi.org/pm3.htm](http://www.dioi.org/pm3.htm)), Jones published there some 1991 mis-science ([www.dioi.org/jm03.pdf](http://www.dioi.org/jm03.pdf) fn 86), yet he graciously acknowledged error ([www.dioi.org/j603.pdf](http://www.dioi.org/j603.pdf) §A1), despite *JHA* Editor M.Hoskin's testing the limits of mis-editing (*ibid* §§H-I). But after *JHA*'s last remaining conscience died (C.Wilson, author of *ibid* §G1), there's no gratitude in *JHA* (or fellow cult-lit) for any among *DIO*'s repeated corrections (e.g., [www.dioi.org/jm00.pdf](http://www.dioi.org/jm00.pdf) *passim*; [www.dioi.org/jhb.htm](http://www.dioi.org/jhb.htm)) of history-of-science's unmissably ever-beckoning bungle-beacons.

**B16** Centrists long insisted Ptolemy's *arcus visionis* data must be well above the horizon. But a productive DR-Pickering chat realized that sky-opposite *acronycal rising can not even be defined except on the horizon* ([www.dioi.org/jc01.pdf](http://www.dioi.org/jc01.pdf) §F), suggesting the former was also for horizon, as Pickering's 2002 pioneering mathematical analyses (*idem*) verified, which contributed to a flock of evidences (*ibid* §§E&F) **that extinction in ancient skies was often virtually Rayleigh.**

**B17** Brad Schaefer in the 2001 *Journal for the History of Astronomy* published an inadequate proof of Ptolemy's authorship of some of *Almajest* 7.5-8.1's Ancient Star Catalog. Mathematically gifted Gerd Graßhoff had in 1986&1990 proved the ASC was stolen from Hipparchos. Tycho outted the theft in 1598, thereby finding correct precession, which enabled him to be the 1<sup>st</sup> astronomer in history to predict starplaces within ordmag 1' accuracy 100<sup>y</sup> in advance: ‡9 §C above. *JHA* & Schaefer admitted zero, triggering our April Fool's Day spoof: [www.dioi.org/fff.htm](http://www.dioi.org/fff.htm).

**B18** The sad but unavoidable conclusion from the foregoing: there is no sign at present that history-of-science cult members have the slightest intention of changing their responses to analytic criticism, responses which appear to include every ploy (no matter how vile: [www.dioi.org/ns.htm](http://www.dioi.org/ns.htm); [www.dioi.org/tar.pdf](http://www.dioi.org/tar.pdf)), except honest, competent scholarship.