

# 10 Approaching 2012: Modern Misconceptions Versus Reconstructing Ancient Maya Perspectives

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The topic of 2012 can be debated and discussed from at least four different perspectives: (1) scholarly work to reconstruct authentic Maya beliefs; (2) popular writers and so-called “New Age” model-makers; (3) the mass media; (4) what contemporary Maya leaders themselves think of 2012. I have treated all four of these perspectives in detail in my recent book, *The 2012 Story: The Myths, Fallacies, and Truth Behind the Most Intriguing Date in History* (Jenkins 2009). These areas often overlap. For example, the media may attempt to embrace and report on all these positions. However, more often than not the mass media simply assumes and orients its reporting to the most ridiculous doomsday presentation. At best, the mass media will frame its discussion in a biased way which simply reflects modern misconceptions. For example, the one overall misconception, which I will not discuss at length here since it has been so overplayed, is that the ancient Maya predicted the end of the world in 2012. As I have been pointing out for some twenty years, there is no evidence for this assumption. It is, however, an expected talking point for a dumbed-down mass media that thrives on sensationalism.

Since the mid-1980s I have studied and written about Maya astronomy, cosmology and calendrics. I have an ancillary interest in how the 2012 topic has been increasingly appropriated by the popular imagination, including exploitative and opportunistic writers. I am also the originator of a carefully documented and elaborated reconstruction of what the ancient creators of the Long Count system intended the 13-*bak'tun* cycle ending in 2012 to represent (Jenkins 1998). My work therefore belongs in the first category listed above, even though I am an independent researcher operating outside of university sponsorship and grant support.

There is not enough space in this article to treat all four of the areas listed above, so I will focus on the first two perspectives. The often

contentious relationship between professional Maya scholars and popular writers who present new or idiosyncratic models must be underscored by a surprising fact: although the 13-*bak'tun* cycle ending has been written about in the popular marketplace since 1975, professional Maya scholars have only recently begun to seriously address it. These recent "official" comments, however, were forced by the increasing hype about the date in the media and thus are reactive in nature. The serious treatment of the 2012 period-ending date, as a valid artefact of ancient Maya thought, has to this day (January 2010) not been systematically explored by the professional scholars who have critiqued the pop-culture "2012 phenomenon."

### **Popular Writers and New Age Models**

Since my 1989 book *Journey to the Mayan Underworld*, I have taken note of the 2012 idea as it has been used by popular writers. The first popular book (by which I mean not published by a university press or by a professional Maya scholar) that dealt with the impending 13-*bak'tun* cycle ending was Frank Waters' *Mexico Mystique* (1975). At that time, the only reference to the cycle ending in the academic literature was found in Michael Coe's *The Maya* (1966). Waters cited Coe for the end date he used, an unfortunate occurrence because while Coe subscribed to the widely accepted "GMT" (Goodman-Martínez-Thompson) correlation, he miscalculated the end date as being 24 December 2011 CE. Waters' astrological analysis of the date was therefore based on incorrect information. The same year (1975), and soon after Waters' book appeared, the 2012 idea started appearing in other books, including Peter Balin's *The Feathered Serpent* (1978), Peter Tompkins' *The Mysteries of the Mexican Pyramids* (1976), José Argüelles' *The Transformative Vision* (1975), and the McKenna brothers' *Invisible Landscape* (1975). All of these references were very brief, nothing more than a sentence, and utilised either Coe's incorrect date or a general reference to the year 2012.

Throughout the 1980s, the 2012 topic became most associated with the ideas and books of artist Argüelles, especially his 1987 book *The Mayan Factor*, which galvanised the Harmonic Convergence event in August of that year. Thereafter, Argüelles developed his Dreamspell system and 13-Moon calendar, which instituted his own idiosyncratic day-count placement (at odds with the surviving traditional day-count in Guatemala) and promulgated mathematically flawed and conceptually irrational ideas. I was the first to publish, in 1992, a detailed critique of the flaws in Argüelles' models (Jenkins 1992).<sup>1</sup>

Visionary philosopher Terence McKenna utilised 2012 in his new theory of time, Time Wave Zero. By the late 1970s, he conceived 21 December 2012 as

a collective breakthrough of consciousness, something built into the architecture of time that was destined to happen. As I have expressed in various interviews and writings, there is reason to question this way of structuring and thinking about future events (McKenna himself was not completely wedded to his theory). In 1995, British authors Maurice Cotterell and Adrian Gilbert published *The Mayan Prophecies*, which elaborated a deeply flawed theory of solar sunspot cycles, pointing to an alleged event in 2012. I interviewed the main author of the book, Gilbert, and wrote a lengthy critique which pointed out dozens of factual errors.<sup>2</sup>

Poor research has continued to plague popular books on 2012. By 1999 Swedish author Carl Calleman was developing his own "end date in 2011" theory which rejected the established 2012 cycle ending date. In 1999, 2001, 2006, and numerous occasions in between, I debated with Calleman and engaged his ideas, exposing errors in how he understood the basic facts of the Maya calendar tradition as well as conceptual inconsistencies in his idiosyncratic ideation.<sup>3</sup> He, like many popular writers on 2012, are content to invent their own clever models, with only the barest reference to the facts of Maya calendar tradition, apparently concerned primarily with proffering their own trademarked systems to carve out a market share of the burgeoning 2012 cottage industry. Today, the 2012 discussion is largely swamped with showbiz and exploitation, fed by the mass media. Often, as with more recent joiners of the 2012 bandwagon such as Richard Hoagland, Whitley Strieber, Daniel Pinchbeck, Lawrence Joseph, and Gregg Braden, 2012 is largely detached from its basis in Maya tradition and gets used only as a compelling icon on the marquee for whatever recycled spiritual technique, cool neo-shaman trip, science gimmick, or doomsday device one wants to offer.

Critics easily categorise all of these authors as "New Age" writers. My own approach to these writers on 2012 has been to read and assess what they are actually saying. In my books I have provided critical analyses of these writers, and have spent much time exposing the factual errors and conceptual flaws in their work. This work has been aided and augmented by Geoff Stray, whose books and website provide eagle-eye critical analyses of virtually every 2012-related model and product.<sup>4</sup> My reference point for determining the merit of the ideas proposed by these writers is based on two things: (1) internal inconsistencies in the theories as presented; (2) by reference to fundamental facts within the authentic Maya tradition. It has been fairly easy to show that these theories and models fail because they are not aligned with the fundamental facts of Maya calendar tradition. Only two of them (Waters 1975; Cotterell and Gilbert 1995) were concerned with attempting to reconstruct possibly authentic beliefs about 2012. Cotterell and Gilbert (1995) concluded

that 2012 was intended to target a solar sunspot maximum, but as mentioned the mathematics and research were deeply flawed. Waters (1975) attempted to reconstruct authentic Maya ideas about 2012, but as I pointed out (Jenkins 1992) he referenced the incorrect end-date calculation (24 December 2011, published in 1966 by Michael Coe), so his effort was doomed from the start.

As one can see, my position has been that of critically rejecting virtually every “New Age” theory and model presented by “New Age” authors. And my critiques are well documented on my websites and in my articles and books going back to 1989. It is thus surprising that Maya scholar David Freidel and Marcos Villaseñor, a frequent contributor to the academic email list *Aztlan*, labelled me “a New Age apologist” in an essay they wrote that offered a critique of my work.<sup>5</sup> I asked Marcos in what sense they meant this, and he confirmed that, as I suspected, they meant that they saw me as a devotee of New Age ideation, an advocate for New Age thought, and thus an “apologist” for New Age authors and ideas. Apparently they were unaware of my lengthy critiques of all the “New Age” 2012 theories that I sketched above, which has been a frequent concern in my writings. Freidel’s and Villaseñor’s superficial assessment unconsciously inverted my position and made me an apologist for ideas and theories that I have exposed as fallacious. Furthermore, ironically, I have often been the first to publish such detailed critiques and exposés.

In my books, web pages, and articles on Maya culture, calendrics and cosmology, my stated effort has been to reconstruct the Maya intention behind the 13-*bak’tun* cycle ending on 21 December 2012, and what the ancient Maya may have thought about it. The effort to reconstruct a lost paradigm connected to 2012 is largely avoided in the mainstream 2012 marketplace. One can find clever systems and models in this arena, and sometimes interesting ideas that are true or real in their own sense, but my work has largely stood alone in providing an in-depth investigation of 2012 as a valid artefact of ancient Maya thought. In academia, this pursuit was not considered worthwhile until very recently (Sitler 2006). The critiques of most professional Mayanists have been reactionary, deeply biased, and/or factually flawed.<sup>6</sup>

The idea that we can reconstruct what the ancient Maya thought about 2012, and how they used it in their inscriptions and traditions, does not come into play for scholars. They have been unconcerned with this task. It is my work—that of a non-degreed independent scholar and researcher—that alone has offered a well-documented reconstruction of the role 2012 may have played in ancient Maya traditions. This work has included self-funded field trips to study the site of Izapa, as well as sixteen trips to Central American and Mexico undertaken between 1986 and 2009. The purpose of these trips involved studying Maya archaeological sites, living and working among the Maya, delivering

relief supplies to Maya communities, and visiting museums and archives. My seminal work, *Maya Cosmogenesis 2012* was compiled into book form in 1997 and since there was no interest in it at academic publishing houses I published it through a popular trade book publisher in 1998.

### **Reconstructing Ancient Maya Astronomical Practices and Knowledge**

This heading accurately describes what my research has been about, beginning in the mid-1980s. It requires understanding Maya traditions such as astronomy, calendrics, archaeoastronomy, religion, iconography, and mythology. By the early 1990s, I was drawn to unresolved questions related to astronomy and the Long Count calendar, notably the solstice occurrence of the 13-*bak'tun* cycle end date: 21 December 2012. This date was determined by the correlation of the Maya calendar with the modern Gregorian calendar, worked out first by Joseph T. Goodman (1905) and later confirmed and slightly adjusted by Juan Martínez Hernández and then J. Eric S. Thompson (1927). We need to explore some details of Maya calendrics here. It is the lack of understanding and appreciation for these details which creates so much confusion among popular writers and the media, as well as among professional Maya scholars who frequently conceal their lack of knowledge of one or more disciplines that are essential for understanding 2012.

There is a much touted "disagreement" about the exact cycle ending date, it being presented as either 21 December or 23 December 2012. J. Eric S. Thompson had tested and confirmed and slightly adjusted the earlier work of Joseph T. Goodman and arrived at the final "GMT2" correlation in 1950, making 13.0.0.0 fall on 21 December 2012. A two-day adjustment to Thompson's 1950 determination of the correlation was argued by linguist Floyd Lounsbury (1983, 1992), which would theoretically shift the cycle-ending date to December 23. Critics who analysed Lounsbury's 1983 argument pointed out that his astronomical criterion (Venus's morning star appearances) could not support the proposed two-day distinction (Tedlock 1992). My critique of Lounsbury's 1992 paper exposed a circular argument which, when carefully analysed, showed greater support in his data for the December 21 correlation.<sup>7</sup>

In addition, Lounsbury had to address the ethnographic evidence from the survival of the 260-day calendar in highland Guatemala. Ethnographer and trained day-keeper Barbara Tedlock argued convincingly that this day-count was very likely an unbroken survival from the Classic Period (Tedlock 1982). According to Classic Period creation texts, the beginning of the current 13-*bak'tun* cycle (13.0.0.0.0) was coordinated with the date 4 *Ahau* in the 260-day *tzolkin* calendar, which runs concurrently alongside the Long Count. Since

260 divides evenly into the 13-*bak'tun* period, the end of the current 13-*bak'tun* period would also need to coordinate with 4 *Ahau*. The surviving day-count among the Quiché Maya and other groups in Guatemala could then be used as a litmus test for any proposed correlation. This test supports 13.0.0.0.0 = 4 *Ahau* on December 21, not December 23. Lounsbury's proposed alteration to Thompson's GMT2 correlation fails this test.<sup>8</sup>

Lounsbury responded to this difficulty by suggesting that there must have been a universal two-day shift in the day-count at some point just before the Conquest. It would need to have been universally coordinated throughout all of Mesoamerica, because as Edmonson summarised (1988) we have three ethnohistorically documented Conquest-era date correlations from three widely separated regions (Yucatán, Central Mexico, Highland Guatemala) which support the December 21 placement. Furthermore, it is almost inconceivable that such a simultaneous and universal two-day shift could have been coordinated. Nevertheless, if we accept Lounsbury's proposal of a two-day shift, then all post-Conquest dates must—according to his own theory—in practice point to a December 21 cycle-ending date. Prominent and highly visible academic supporters of Lounsbury (Schele, Freidel, Coe) have continued to report December 23 as a viable alternative to December 21, without apparently understanding the details of Lounsbury's theory. So, the December 23 date is a red herring, often invoked by those who seek to mitigate the astronomical importance of December 21 falling on an accurate solstice.<sup>9</sup>

Since Edmonson's brief mention in his 1988 book, scholars have not been silent on the curious fact that the 2012 cycle ending falls on a solstice. They probably would have been silent if I had not persistently brought it up in private exchanges and in online venues such as *Aztlan* and the *University of Texas Mesoamerica Forum*. However, the consistent response, clearly a reflection of scholarly consensus on the matter, was simply that it must be a coincidence. It was not until my exchange with Susan Milbrath in the pages of the *Institute of Maya Studies Newsletter* in 2008 that a professional Maya scholar finally agreed with me that it was unlikely to be a coincidence.<sup>10</sup>

Milbrath's acknowledgment promised to break open the discussion, but was almost immediately mitigated by John Justeson performing a statistical sleight-of-hand. Justeson reiterated his view at the Tulane conference in February 2009, and Anthony Aveni quickly adopted Justeson's critique against the likelihood that 21 December 2012 was intentionally placed.<sup>11</sup> Justeson argues that either solstice would be an important day suggesting intent, but so would either equinox, a zenith or nadir day, or perhaps other days in the solar year as well. And if the end date was within one or two, or even three, days from any of these important days, we might harbour a suspicion that intention was present. The

end result is that the chances that the end date might accidentally fall within any of these zones is much greater than the 1-in-365 chance one would expect for the December solstice date alone. Justeson arrives at a figure of 1 in 6. The odds for coincidence are thereby increased. This is a very clever operation. However, unless you can increase the odds to 50/50 you are still obligated by reason to assume that intent is more likely, and pursue an investigation of how and why 21 December 2012 was intentionally placed.

So, what does one find in pursuing the solstice placement? At the very least, one finds an ability to calculate a future date in the tropical year—indicating an accurate knowledge of the tropical year of some 365.2422 days sometime around 100 BCE. This astronomical knowledge is consistent with the kind of scientific knowledge and intellectual theorising that leads to other astronomical discoveries, including the precession of the equinoxes. My work identified a rare astronomical alignment that occurs within the cycle of the precession of the equinoxes, which culminates on December solstices in the years around 2012. It is a fact of astronomy that the sidereal position of the December solstice sun shifts, with precession, very slowly backward along the ecliptic, at the rate of about one degree every 72 years. At long intervals the position of the December solstice sun will line up with the Milky Way, the abstract centreline of which modern astronomers refer to as “the galactic equator.” Importantly, I was able to show how the astronomical features that are involved in this “galactic alignment” are visible to the naked eye and are meaningfully present in Maya inscriptions, iconography, and Creation Mythology. For example, although the galactic equator is an abstract and imaginary line, the point is that the visible feature known as “the dark rift” runs along the mid-plane of the galaxy, from the ecliptic in Sagittarius northward past Cygnus. This dark rift feature is called the *xibalba be* by the modern Maya (the “road to the underworld”). Translator Dennis Tedlock has identified it with the Black Road mentioned in the *Popol Vuh* Creation Myth (Tedlock 1985: 39, 334, 358). It also spoke to the Hero Twins (i.e., it either *has* or *is* a mouth), was depicted as the crook in the calabash tree where One Hunahpu's severed head was hung, and was generally associated with caves, temple doorways, and birthplaces (Jenkins 1998:129–34, 376). The core idea in my reconstruction work can be stated very simply: *The ancient creators of the Long Count intended 21 December 2012 to target the precession-caused alignment of the December solstice sun with the dark rift in the Milky Way.*

I have been persistent and diligent in getting my findings on the table for academics to consider, offering to send my work to selected scholars, and participating in academic discussion boards like *Aztlan* (sponsored by The Foundation for the Advancement of Mesoamerican Studies) and the online *University of Texas Mesoamerica Forum*. The results of my efforts to engage rational

discourse have been largely disappointing, and are well documented in the publicly archived online forums mentioned. For example, I have offered new insights into the archaeoastronomy and iconography at Izapa, the pre-classic site and culture that scholars including Michael Coe, Prudence Rice, and Vincent Malmström consider to have been involved in the formulation of the Long Count system over 2,000 years ago, but you can peruse the e-list archives and find very little rational engagement with my presentation of these new findings.

My comments are frequently assailed by multiple critics who nitpick over semantics and evade addressing the main points and evidence I offer. Recently, I was effectively ousted from posting to the *Aztlan* list, which I have been a member of since 1996, despite in no way violating its terms. My ejection seemed to revolve around my post which addressed David Stuart's incorrect assertion that the doomsday-2012 meme originated with "New Age hacks," a perspective repeated by E. C. Krupp in his *Sky & Telescope* article (2009). The debacle is documented in my critique of Stuart's 2012 blog.<sup>12</sup> In any case, anyone can browse the online archives at *Aztlan* and *UT-Meso* to observe the debates and discussions that have arisen, and the calibre of the critiques against my work, all of which I have responded to clearly.

In preparation for the first 2012-themed conference in academia, held at Tulane University in February 2009, I prepared a list of essential facts and ideas that should be addressed in any rational treatment of 2012:

- The likelihood of intent suggested by the solstice placement of the 13-*bak'tun* cycle-ending date in 2012;
- The calendar correlation;
- The place and time of the Long Count's origins;
- The relevance of Izapa to the Long Count's origins;
- The galactic alignment theory with respect to the significance of the archaeoastronomical symbolism in the Izapan ballcourt;
- The question of ancient knowledge of the precession of the equinoxes and its accurate calculation.

I sent this to Maya scholar and archaeoastronomer Anthony Aveni before the conference, which he would be keynoting. He acknowledged receiving it. I would now add to this list the new decipherments of Tortuguero Monument 6 that unfolded in the immediate wake of the Tulane conference (to be discussed later in this chapter). I was particularly interested in encouraging Aveni to approach the topic rationally and address the implications of the first point—that of the solstice occurrence of 13.0.0.0.0. Throughout his one-hour keynote talk, Aveni did not address the solstice placement as any kind of indication of intent on the part of the creators of the Long Count. Aveni's talk spent much



time lampooning the silliest 2012 manifestations in the New Age marketplace. In order to get this one point on the table for discussion, I had to introduce it myself during the question and answer section after he had completed his presentation. I recorded Aveni's talk, and have made it available online.<sup>13</sup> I also transcribed and discussed Aveni's critiques in my recent book (Jenkins 2009: 249–59) and at Update2012.com.<sup>14</sup> Aveni had avoided discussing the single most important fact that suggests 2012 is more than a New Age nuisance. Many months later, we find Aveni stating in an interview with *National Geographic News* (as if he had known it all along) that, of course, the solstice placement in 2012 probably indicates intentionality.<sup>15</sup> This is, unfortunately, often the way that ideas worked out by outsiders are adopted into the status quo. This first step in acknowledging that the 2012 cycle ending was likely an intentional artifact of the Long Count system was for me the opening for rational investigation that I began pursuing in the early 1990s.

Maya scholar John Hoopes has stated to me that professional Maya scholars who have assessed my work believe it to be totally unwarranted. However, all of the documented exchanges I have had with scholars on *Aztlan, UT-Meso, Tribe2012*, in the *Institute of Maya Studies Newsletter* and elsewhere, reveal that professional Maya scholars harbour incorrect assumptions about my work, summarise it inaccurately, or conflate it with the writings of other authors who have appropriated and distorted my work. I have always invited debates and discussions about my work, but have consistently found that scholars are not well apprised of one or more disciplines that are necessary for understanding the interdisciplinary synthesis I have offered. For example, it is well known that most epigraphers today care very little for astronomical content in the inscriptions, instead focusing their attention on phonetic pronunciation. This eliminates an important dimension (astronomy) that is very often embedded within a hieroglyphic inscription: in literary critique, we call this "subtext." So, the current approach of epigraphers may provide a phonetic reading, but misses underlying contexts which, if acknowledged, could help elucidate the meaning of the text.

Even within the discipline in which a scholar professes authority and expertise, such as astronomy, misleading and incorrect assumptions abound. Nowhere is this more apparent than in archaeoastronomer Anthony Aveni's (2009) recent book (excerpted in the November 2009 issue of *Archaeology* magazine) and astronomer Ed Krupp's *Sky & Telescope* article (also November 2009). Let us look at a few representative examples from these well-regarded Maya scholars, which are indicative of a much larger problem.

Were the ancient Maya aware of the precession of the equinoxes? Perhaps the most compelling scholarly work done on the precession question is found

in Michael Grofe's 2007 PhD dissertation, *The Serpent Series: Precession in the Maya Dresden Codex*. Grofe finds evidence for precessional intervals in the Serpent Series of the Dresden, and identifies tropical and sidereal year calculations in the inscriptions. Aveni has been aware of Grofe's work for years, due to Grofe's presentation and exchange with Aveni at the 2008 Society for American Archaeology conference. In Aveni's *2012: The End of Days* (2009), he dismissed Grofe's work in about a page, but totally misrepresented Grofe's approach. Grofe's analysis of the Serpent Series text, including the dated inscriptions and distance numbers, attempted to determine the Maya's estimate of the sidereal year and precession. He arrived at a figure that is slightly different than modern calculations, and Aveni seized upon this, stating:

Regarding projections back some 30,000 years, we do not know enough about the variability of astronomical periodicities to project sky views back confidently to much more than a few thousand years B.C. Anyone who cherry-picks big numbers from diverse sources is bound to discover whole multiples of diverse astronomical periodicities (Aveni 2009:105).

Aveni also asserted that Grofe used the contemporary value of precession "to mount his argument." The fact is that Grofe was not concerned with astronomical periodicities going back 30,000 years, nor was he using a contemporary precession value to "mount his argument." Grofe's work is not dependent on making such a comparison with actual values. The point of Grofe's work is to figure out what the Maya were using as *constant values within these long calculations*. Aveni apparently did not understand Grofe's argument, which can be found stated clearly in his dissertation:

It must be stated that the following hypothetical reconstructions do not intend to show actual current projections for these dates, which would use non-constant theoretical rates for both the tropical and sidereal years, and for the length of a day. The sidereal differences between the current measurement and the Maya measurement are only very slight, but the differences in the projected tropical year are increasingly larger over time. The aim here is to visualize the internally consistent results of the calculations that the Maya determined, based on their evident theoretical constants. We have already discussed the accuracy of these calculations, and it would be possible to further compare these dates with current astronomical theory, but that is not the intention here (Grofe 2007: 91–92; original emphasis).

This and the other examples clearly expose Aveni's assessments as problematic. Aveni's oversight here is emblematic of the flaw in many of his critiques,

which when combined with his nonchalant but authoritative tone cudgels his readers into accepting his assertions. His critiques are effective to the extent that his readers uncritically accept his authority.<sup>16</sup>

E. C. Krupp is the long time Director of Griffith Observatory in Los Angeles, and a scholar of Maya astronomy. His article in *Sky & Telescope* (2009) pictures my 1998 book *Maya Cosmogogenesis 2012* and he calls it the “chief book behind the 2012 mania.” He then goes on to dissect the astronomy behind the galactic alignment and concludes that its connection to 2012 is not based in “real astronomy.” In 1999 I posted online the calculations of astronomer Patrick Wallace, Starlink Project Manager at Rutherford Appleton Laboratory, regarding the precession-based galactic alignment process, its relation to the galactic equator and the galactic centre, and discussed these things openly in my articles and in my 2002 book *Galactic Alignment*.<sup>17</sup> Yet Krupp writes: “Jenkins...settles for an imprecise alignment to which December 21, 2012, is arbitrarily and circularly assigned. Real astronomy does not support any match between the Baktun-13 end date and a galactic alignment. The advocates both admit and ignore this discrepancy.” Allow me to correct this. I was the first writer to provide a clear definition and discussion of this pejoratively-labelled “discrepancy” between astronomer Jean Meeus’s (1997) galactic alignment calculation and the Maya’s 2012 cycle-ending date. I did this openly and honestly. It is not and was not ignored. Furthermore, the slight “discrepancy” is not a threat to my theory. Should we expect the ancient Maya astronomers to have made a *precise* forward calculation of precession? No, and I have not required them to have done so, but Krupp apparently does. Is the fourteen years between 1998 and 2012 a reasonable “error range?” Yes. The problem is that what Krupp believes to be “real astronomy” (the one that uses precise abstract scientific definitions) does not correspond identically to the observational concerns of ancient naked-eye Maya skywatchers.

Krupp, like Aveni, falls prey to a fallacy based on what Maya scholar Gerardo Aldana calls “circum-Mediterranean-derived” (“cMd”) scientific approaches to indigenous cosmologies (Aldana 2007: 3, 11–14). Modern scientific definitions and concepts can be used, as I have done, to precisely *define and discuss* a phenomenon such as the galactic alignment, but modern scientists and astronomers often get lost in their allegiance to these abstractions. Krupp and many of my critics neglect to point out that my reconstruction of ancient Maya cosmology proceeds on the basis of the naked-eye astronomy of the ancient Maya, identifying features such as the Milky Way’s dark rift and the “Crossroads” (of the Milky Way and the ecliptic) that were of interest to them. Aveni and Krupp, and other Maya scholars such as David Freidel, try to reverse engineer modern scientific concepts onto the Maya, or require that the ancient Maya subscribe

to modern scientific definitions before reconstructed paradigms are taken seriously. My detailed responses to Krupp, Aveni, and Freidel are found in the May and October updates at Update2012.com.<sup>18</sup>

These kinds of superficial and misleading critiques of not only my work but the progressive work of degreed Maya scholars such as Michael Grofe, are par for the course. Now that they are documented and exposed as being fallacious with simple fact-based rebuttals, John Hoopes' comment that professional scholars find my work unwarranted—as if they had ever systematically and honestly addressed it—is itself revealed to be part of the misleading obfuscation that has surrounded the reception of my work.

### **Tortuguero Monument 6**

Krupp, Aveni, Freidel, Stuart, Houston, and others dismiss the importance of the inscription on Tortuguero Monument 6 because two glyph-blocks are partially eroded and the reading of them has been unclear. There were over 180 glyph blocks on Monument 6 and a full treatment of the entire inscription goes a long way to support my "alignment 2012 theory." It is easy to say that there is no evidence (including at Tortuguero) that the ancient Maya saw the calendar, and our world, *definitely* ending in either transcendence or catastrophe on 21 December 2012. I agree with that. But there is evidence, particularly at Tortuguero, for how 2012 was being conceived and utilised. Critics such as Krupp, Aveni, and Freidel, are apparently unconcerned with the new work that is being done on other dates and events recorded on Tortuguero Monument 6 that are tied in various ways to the 2012 date. They are also apparently unaware of the debates and observations that have occurred on Stephen Houston's blog about Tortuguero<sup>19</sup> and comments by epigraphs and archaeologists on *Aztlan* about the inscriptions on Tortuguero Monument 6.<sup>20</sup> All of that lends much support to my work at Izapa and my interpretation of 2012 as being, according to Maya tradition, a period ending of transformation and renewal connected, in their cosmological beliefs, with the solstice sun's alignment with the dark rift in the Milky Way in era-2012.

Tortuguero's Monument 6 is important because of the specific date reference to 2012 that occurs in the small right wing of the originally T-shaped monument. Although several scholars mentioned this 2012 date on Monument 6 in the early 1990s (and it was referenced in Schele, 1982), it was not until 2006 that Robert Sitler called attention to it, which led to David Stuart's decipherment of the text associated with the date.<sup>21</sup> The text immediately following the date involves an action performed by the deity Bolon Yokte, who is often associated with both warring and creation imagery. One of the verb glyphs, which would tell us "what happens," or what Bolon Yokte does in 2012,

is partially effaced and therefore Stuart concluded that the 2012 text “doesn't tell us much.” Since this deity is associated with other 13-*bak'tun* creation texts (for example, the Vessel of the Seven Lords), I explored the role of this deity and in 2006 wrote a paper on the relevance of this deity being present at the 2012 cycle ending.<sup>22</sup> It allows us to deduce that the ancient Maya were conceiving 2012, as they had conceived the previous 13-*bak'tun* cycle ending (in 3114 BCE), as a type of creation event. The period ending in 2012 would thus be a “like-in-kind” event to 3114 BCE. Since the Maya creation myth (the *Popol Vuh*) contains a narrative in which a sequence of World Ages is laid out, we might suspect that the Long Count's 13-*bak'tun* cycle functioned as a World Age, the *calendrical* counterpart to the *mythology* of World Ages attested in the *Popol Vuh*. In any case, Bolon Yokte also has warring attributes, which is appropriate for cycle endings because the previous cycle must be overthrown, sacrificed, and/or transformed. His presence at period endings, as a warrior and as a creation deity, is consistent with Maya concepts of time. Barb MacLeod has re-examined early photographs of the two effaced glyphs and believes a conclusive decipherment can be offered for Bolon Yokte's action. (See Wayeb Notes, no. 34, at [www.wayeb.org](http://www.wayeb.org))

Upon a thorough examination of the entire Tortuguero text, it is clear that while the verb glyphs immediately following the 2012 date are important, more revealing for the overall function of the 2012 date is the way it is linked and referenced via distance numbers to other events in the same monument. The numerological, calendrical, and astronomical associations embedded in the entire text reveal, as Aldana said of his methodology in studying the texts of nearby Palenque, an “astronumerological” subtext (Aldana 2007: 197).<sup>23</sup> The entire text on the monument contains a cornucopia of star wars events, a king's birth and accession, at least one eclipse date, a building dedication, a sweat bath rite, and ideologically meaningful astronomical patterns involving the sun, Jupiter stations, and the dark rift in the Milky Way. My study of the astronomy of the thirteen dates reveals a statistically beyond-chance interest in solar and Jovian alignments to the dark rift as well as embedded astronumerological links between the 2012 date and other dated events in the text.<sup>24</sup>

For example, the *hotun* ending of 9.11.15.0.0 is separated from the 2012 date by an interval of 491,400 days. This interval is divisible by 260, 360, 364, 378, and 819—key numbers in the number canon that Floyd Lounsbury noted in the 1970s and that Gerardo Aldana applied to his analysis of texts from nearby Palenque. Lounsbury (1978: 768) found that the 819-day count was associated with Jupiter, and Milbrath compiled further evidence for this connection (1999: 296–305). The fact that the 819-day count is linked with the 2012 date ( $819 \times 600 = 491,400$ ) is particularly revealing when the astronomy of these

two dates is compared. The former date (23 July 667 CE) involves Jupiter stationing in the dark rift, while the latter date (21 December 2012) involves the sun's alignment with the dark rift—with Jupiter at station near the Pleiades (the 667 CE date is given in the Julian calendar while the 2012 date is given in the Gregorian calendar, according to the GMT2, 584283 correlation). Overall, of the thirteen dates in the text, six involve meaningful alignments with the dark rift (four solar, one Jupiter, and one lunar eclipse alignment).

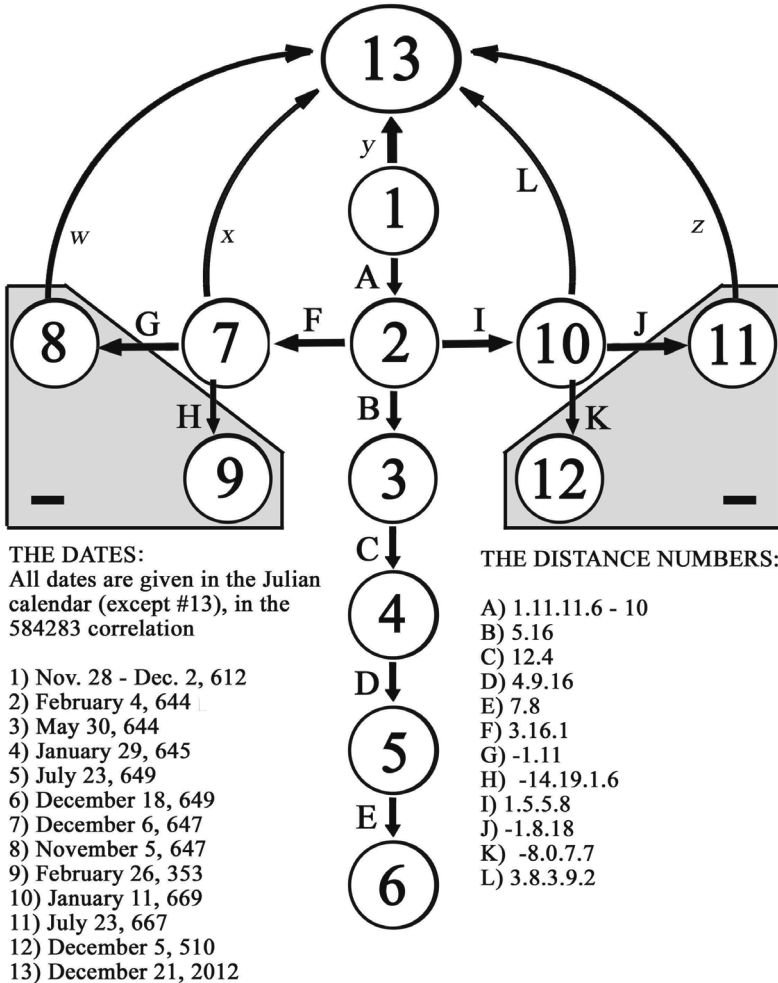


Figure 1. The 13 dates and 12 distance numbers in Tortuguero Monument 6. Dates 8, 7, 1, 10, and 11 are connected to Date 13 by either astronomerology (8 and 11), dark rift alignment astronomy (1 and 7), or distance number (10). Dates 8 and 11 are hotun endings. Dates 6 and 13 are solstices. Dates 9 and 12 are historical rites in the distant past. Sun in the dark rift: Dates 1, 7, 12, and 13. Lunar eclipse in the dark rift: Date 3. Jupiter stationing in the dark rift: Date 11.

A line drawing of the entire text on Monument 6 is provided elsewhere in this anthology (see Van Stone, Figure 2 and page 44 of Wayeb Notes no. 34 at [www.wayeb.org](http://www.wayeb.org)). For ease in identifying the dates and distance number relations, I have consolidated the inscription into Figure 1. In doing so, I noticed that the distance number sequences structure the dates in an implicitly symmetrical pattern. Perhaps not too much should be made of this, but notice that the four dates generated by negative distance numbers branch off symmetrically from their respective base dates (they are located in the shaded areas). In my initial diagram, Date 13 (the 2012 date) was left hanging as the only asymmetrical element, connected by a distance number to Date 10. I realised that several other dates had implicit relationships to the 2012 date, so I placed Date 13 at the top to allow access to the other relevant dates in the diagram. The resulting image provides a simplified schematic of a complex text in order to foster a quick grasp of what I argue, in my 2010 SAA study, to be an intentionally embedded subtext. The following examples show how such an approach can help us understand the astronomical content of this embedded information, which because of its non-explicit presence in the hieroglyphic inscription is easily overlooked.

After the Tulane conference in February of 2009, Michael Grofe and I began examining the full text of Tortuguero Monument 6, with attention going to the thirteen dates. Grofe noticed several things, including the eclipse date, two dates 137 years apart separated precisely by the sidereal year, and two other dates (B'ahlam Ajaw's birth in 612 CE and the sweat bath ritual of 510 CE) that mimic the sun's alignment with the dark rift in the Milky Way that occurs on 13.0.0.0.0 (on the solstice) in 2012.<sup>25</sup> As a consequence, B'ahlam Ajaw's birth date in 612 CE, reconstructed as occurring in the missing left flange of the T-shaped monument, is structurally parallel to the 2012 date (the final date of the monument, in the right flange). These are the first and last dates in the text. Monument 6 is really a testimony to the life of B'ahlam Ajaw. The relationship between B'ahlam Ajaw's birthday and the 2012 goes deeper, however, than structural parallelism. First, his birthday is linked via distance numbers to his accession in 644 CE, through the building dedication in 669 CE, to the 2012 date. Second, the sun will be positioned in the dark rift on the 2012 cycle ending as it was on his birthday in 612 CE. It is likely that the astronomy of his birthday made B'ahlam Ajaw providentially connected to the 2012 period ending (a fortuitous occurrence for a prospective Maya king), but the relevance of this would only hold true if we accept a conscious awareness among the Tortuguero elite that a similar solar-dark rift alignment would also occur on 13.0.0.0.0 in 2012. This and other data argue for a conscious awareness of the sun's alignment with the dark rift on solstice 2012. Third, on both dates Jupiter

was at station near the Pleiades. The explicit use of Jupiter and the sun in these alignments mitigates the unnecessarily generalizing argument that among all the celestial bodies one can always find alignments of something with something else on any date.

As an indication of the larger field of data that can be brought into the argument, we can take note of B'ahlam Ajaw's death date, recorded not on Monument 6 but on the Tortuguero Wooden Box.<sup>26</sup> He died on 19 May 679 CE (Julian calendar), *when Jupiter was positioned in the dark rift*. Interestingly, on the *hotun* date noted above (Date 11), which is linked numerologically to 2012, Jupiter was at station in the dark rift. Tortuguero Monument 6 is emerging as a key text in what may have been a late-Classic intellectual renaissance fuelled by royal elites remythologising the half-forgotten calendrical mythos at the root of their ancient Long Count system. Here's a teaser for where my research is going: the decapitation of Copán king Waxaklajun Ub'ah K'awil (18 Rabbit) on 1 May 738 CE (Julian) *happened when Jupiter was in the dark rift*. This is just the tip of the iceberg revealed by an interdisciplinary methodology being applied to understanding the role of 2012 in the life of B'ahlam Ajaw, among the elite of Tortuguero, and perhaps within a larger dynamic of cosmological and political rhetoric extending to Palenque, Copán and Quiriguá.

Barb MacLeod, Michael Grofe, Sven Gronemeyer, and several other epigraphers have been working out the epigraphic decipherments of Tortuguero's interrelated inscriptions and dates. The fine points of epigraphic decipherment can and will be debated, but the importance of the dates referenced in the inscriptions of Tortuguero, along with the subtext implications of the astronomy associated with B'ahlam Ajaw's birth date and other dates in his life, can only be disputed by die-hard critics wielding an extreme brand of short-sighted polemics. Due to the unpublished nature of many of these new findings, which have emerged in private discussions among several researchers, I am unable to go into more detail until additional papers are published. My work on the Tortuguero text was presented at the Society for American Archaeology in April 2010.

## **Conclusion**

In the face of this and more detailed forthcoming findings, I believe it will ultimately be difficult to sustain the notion that the image-complex of the sun in the Crossroads/dark rift is not a key to understanding an underlying cosm-conception that informed the elite ruling class of Tortuguero and served as a key theme in B'ahlam Ajaw's life. Furthermore, the situation indicts the astronomical alignment in 2012 as an intentional artifact installed at the very origin point



of the Long Count, at least seven centuries prior to the life of B'ahlam Ajaw. All of this provides support for my "galactic alignment theory" that I first put on the table fifteen years ago. At that time, I took the common sense approach of exploring the iconography at the site of Izapa, which several scholars (Coe, Rice, Malmström) believe was involved in the formulation of the Long Count. My findings at Izapa have been criticised because they did not access Classic Period hieroglyphic inscriptions. Although the logic of such a criticism is wanting, because the Long Count originated not in the Classic Period but in the pre-Classic (before hieroglyphic writing emerged), we can now consider the Tortuguero Monument 6 inscription as support for my work at Izapa and my thesis that the 2012 cycle ending was intended to point to a rare precession-caused "solstice-dark rift" alignment.<sup>27</sup>

To clarify, hopefully once and for all: I am not saying the Maya predicted the solstice-dark rift alignment with *exact* precision, and my theory does not require exact precision. I am not saying that the alignment happens *only once* on the solstice of 2012 (it happens on winter solstices within a range of 2012). I am not saying that the alignment causes pole flips, solar flares, or *anything* necessarily. I am not saying that the ancient Maya believed the alignment signals the end of time, the end of their calendar, or the end of the world. All I am saying is that the alignment of the solstice sun with the dark rift in the Milky Way is demonstrably the empirical phenomenon in nature that the ancient creators of the Long Count were intending the 13-*bak'tun* period ending in 2012 to mark, indicate, or target.

This core idea in my pioneering work is now receiving new support from the information contained on Tortuguero Monument 6. The challenge, as with any data, is how thoroughly it is understood. A superficial treatment of Tortuguero Monument 6 "doesn't tell us much," as David Stuart said, but a systematic and thorough reading of the text, with sensitivity to its astronomical and numerological themes, tells us that my "galactic alignment theory" was barking up the right tree some fifteen years ago. The evidence points to the role played by the solstice sun's alignment with the dark rift in Maya cosmo-conception, kingship, creation mythos, and building dedications. And it reinforces the notion that 2012 was conceived as a cosmological renewal, a calendrical and mythological creation event inextricably interwoven with the recognition by the ancient Maya that 13.0.0.0 fell on a solstice and on that future day the sun would be aligned with the Crossroads of the Milky Way and the ecliptic at the southern terminus of the dark rift in the Milky Way. That is the crux of the reconstruction I first published in 1994 and elaborated in my 1998 book *Maya Cosmogogenesis 2012*.

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## Endnotes

1. See also my article 'Following Dreamspell':  
<http://Alignment2012.com/following.html> (accessed 31 December 2009).
2. Review of Cotterell and Gilbert's *Mayan Prophecies*:  
<http://edj.net/mc2012/mproph.htm> (accessed 31 December 2009).
3. Calleman / Jenkins debates: <http://alignment2012.com/Debate2001.html>  
(accessed 31 December 2009).
4. See Stray (2005) and <http://www.diagnosis2012.co.uk> (accessed 31 December 2009).
5. Villaseñor and Freidel critique online:  
<http://homepage.mac.com/villas1/MayaProphecies/index.htm>. My response:  
<http://update2012.com/responsetoVillasenor.html>. Villaseñor and Freidel  
referenced the flawed perspectives of astronomer Stephen Tonkin whose views  
I discussed in 2004: <http://alignment2012.com/tonkins-error.html> (accessed 31  
December 2009).
6. See the November update at <http://www.Update2012.com> (accessed 31  
December 2009).
7. Jenkins' 1993 critique of Lounsbury (1992):  
<http://alignment2012.com/fap9.html> (accessed 31 December 2009).
8. Kelley's correlation (1983) and the one argued by Wells and Fuls (2000) do not  
pass the ethnographic litmus test of  $13.0.0.0.0 = 4 \text{ Ahaw}$ .
9. See Van Stone: <http://www.famsi.org/research/vanstone/2012/index.html>, and  
Marc Zender's Peabody Museum talk:  
<http://www.peabody.harvard.edu/files/audio/20091119zender.mp3> (accessed  
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10. Institute of Maya Studies response to Milbrath, online at  
<http://Alignment2012.com/Aprilpg3.pdf> and  
<http://Alignment2012.com/Aprilpg6.pdf> (accessed 31 December 2009).
11. Recordings of the Tulane 2009 conference are online at  
<http://Alignment2012.com/Tulane2009.html> (accessed 31 December 2009).

12. See the October update at <http://Update2012.com> (accessed 31 December 2009).
13. Recordings of the Tulane 2009 conference are online at <http://Alignment2012.com/Tulane2009.html> (accessed 31 December 2009).
14. See the October update at <http://Update2012.com> (accessed 31 December 2009).
15. *National Geographic News*, November 2009, online at <http://news.nationalgeographic.com/news/2009/11/091106-2012-end-of-world-myths.html> (accessed 31 December 2009).
16. David Freidel's tactics are identical; see my review of his critique of my work at the May update, <http://Update2012.com> (accessed 31 December 2009).
17. <http://alignment2012.com/truezone.htm> (accessed 31 December 2009). Details of this nature were also discussed as early as my 1995 writings.
18. Additional debates and exchanges with scholars, going back to the early 1990s, can be found in the 'Maya Calendar & 2012 Studies' section of <http://www.Alignment2012.com> (accessed 31 December 2009).
19. See Houston's piece, 'What Will Not Happen in 2012', and my comments at <http://www.decipherment.wordpress.com/2008/12/20/what-will-not-happen-in-2012/> (accessed 31 December 2009).
20. See, for example, Michael Grofe's comments: <http://www.famsi.org/pipermail/aztlan/2009-July/006438.html> (accessed 31 December 2009).
21. Sitler (2006); Stuart's 2006 translation of a small part of Tortuguero Monument 6: <http://www.famsi.org/pipermail/aztlan/2006-April/001978.html> (accessed 31 December 2009).
22. 'Comments on the 2012 text on Tortuguero Monument 6 and Bolon Yokte K'u': <http://www.alignment2012.com/bolon-yokte.html> (accessed 31 December 2009).
23. Aldana believes the 819-day count was invented by Kan B'ahlam of Palenque during his reign (post 683 CE), but Tortuguero Monument 6 utilizes it in a text from circa 670 CE.
24. See essays at *The Center for 2012 Studies*. <http://thecenterfor2012studies.com>.

25. See Michael Grofe, in press: "A New Interpretation of the Copan Baseline Alignment: The Three Hearthstones and the Orion Nebula." In *Archaeoastronomy in the Americas*. R. Benfer and L. Adkins, eds. Gainesville: University Press of Florida.
26. Matthew Looper, 'A Reinterpretation of the Wooden Box from Tortuguero': [http://www.utmesoamerica.org/texas\\_notes/TN-11.pdf](http://www.utmesoamerica.org/texas_notes/TN-11.pdf) (accessed 31 December 2009).
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