Mayan Calendar 2012 Explained by Vedic Physics

By John Frederick Sweeney

Abstract

Our Solar System revolves around the Milky Way Galaxy once each 26,000 years, crossing the Galactic Center once each time, with a halfway point at 13,000 years. The Abhimaan interface between the C3 Thaamasic and a spectrum of Raja states, varying from $C^2$ to $C$ in cyclic periods, extending over 13 billion years, forms an unusual junction or transfer point. This paper links the transfer point to the end of the Mayan Calendar and periodic cataclysms on Earth, including mass animal extinction and gamma waves. The end of the Mayan Calendar in 2011 marked the passing of our solar system past the Galactic Center, one of the transfer points. Calculations show the possibility of global disaster within the next six years.
Introduction

The Maya people of southern Mexico, Guatemala and Belize are said to have been survivors of the lost Atlantis civilization. If so, this would help to explain the accuracy over millennia of their calendar, which supposedly ended in late October 2011, according to Carl Johan Calleman. The author finds this date far more reliable than the 20 December 2012 date promulgated by John Major Jenkins.

In any case, neither of the Mayan calendar experts truly understood the importance of this date, or what it signifies. In fact, the Mayan calendar is timed to the Galactic Center, or Hunab Ku. The center contains a structure which evidently transmits dangerous gamma waves which disrupt life on Earth, in periodic fashion, every 13,000 years.

Unfortunately, since the Spanish conquistadores burned all but four of the Mayan books, we don’t have much of a collection of historic documents which discuss the importance of the calendar and the Galactic Center.

Jose Arguelles, among others, appropriated this symbol to represent Hunab Ku:
Yet it remains unclear as to whether this symbol held the same meaning in traditional Mayan culture. Arguelles played fast with tradition, and here, blends the Chinese Tai Ji symbol with the Hunab Ku to create his own synthetic modern religion.

Scientific and historical reasons require that we go beyond the New Age assertions of Jose Arguelles to find solid evidence of Mayan knowledge of the galactic center. On the other hand, a symbol much like this has occurred in the crop circles of Southern England.

Vedic Physics is a remnant from an pre – glacial civilization, highly advanced, transmitted in Sanskrit through the Vedas, which had previously been an oral tradition, of Brahma passing the knowledge to his son. The author of a book on Vedic Physics asserts that the people of the Vedas lived with advanced science, but then a major catastrophe occurred some ten thousand years ago to disrupt their civilization. The Vedas are the only remnant of their culture and knowledge.

*The glacial floods virtually destroyed all signs of human achievements or progress in the previous era. It left in its aftermath no relic of any importance that could have provided a handle of connectivity with civilisations that must have existed earlier.*

*However, there is some confirmation through recent media reports of*
archaeological findings containing 40000-year-old human artefacts and implements in the Arctic Circle.

Scientific corroboration of the glacial-melt causing the floods have been well established and documented to erase any doubts about its veracity. The glacial catastrophe occurred more than 10000 years ago. The survivors were certainly not the first-line of Homo sapiens so one had to believe they had forbears before the floods. A major reason for the historical haze surrounding pre-glacial man is this catastrophe.

In other words, the people of the Vedas lived in Siberia prior to the last pole shift, some 13,000 years ago, then migrated south as Siberia cooled. The only remaining vestige of their post – Ice Age culture is Vedic Literature, which contains the advanced science encoded within.

This may not seem so far fetched when one considers that every major culture on Earth has a Flood myth, like Noah's Ark. Or that Chinese culture originates from two diagrams painted on animals which survived the last great flood – a horse and a sea tortoise. Since the sea tortoise can live for more than a millenia, it would have made sense for a member of a dying civilization to paint the rudiments of an entire civilization on the underside of a sea tortoise. This might represent the only chance for re-birth of the culture after the floods receded.

In 2013, most of the world takes a breath or laughs at those who took the 20 December 2012 date as the end of our world. There no reason for either reaction, since we have not passed the 16 year window of danger, and the given date simply marked a target date that might have been set some 13,000 years ago. There is every good reason to believe that global catastrophe awaits humanity in the coming decade.

In that case, we had better study Vedic Physics and figure out with precision, what precisely is taking place at Galactic Center, and how it might effect our planet. One civilization built the Great Pyramid at Giza, a structure which presumably would survive a great flood, and the nearby Sphinx shows evidence of water damage from great floods.

This paper takes Wikipedia as a starting point, then examines phenomena at the Galactic Centre from a paper written in February 2013: specifically the joining of a satellite galaxy and what the authors believe is a Black Hole, although this author has shown that the Substratum is made of Black Hole material.

Then we shall look to the Vedic Physics explanation for this phenomenon,
which has a clear explanation that even details the number of 13 billion years for such phenomena to occur.

Finally, the paper looks at the traditional Mayan calendar, the concept of Hunab Ku and Maya – related crop circles to speculate on the connection between the Galactic Center and the Maya.

Sarcophagus of Mayan ruler Pacal
Wikipedia on the Galactic Center

The Galactic Center is the rotational center of the Milky Way galaxy. It is located at a distance of 8.33±0.35 kpc (~27,000±1,000 light-years) from the Earth in the direction of the constellations Sagittarius, Ophiuchus, and Scorpius where the Milky Way appears brightest. There is strong evidence that supports the existence of a supermassive black hole at the Galactic Center of the Milky Way.

Proof of existence and location[edit]

Because of interstellar dust along the line of sight, the Galactic Center cannot be studied at visible, ultraviolet or soft X-ray wavelengths. The available information about the Galactic Center comes from observations at gamma ray, hard X-ray, infrared, sub-millimetre and radio wavelengths.

Coordinates of the Galactic Center were first found by Harlow Shapley in his 1918 study of the distribution of the globular clusters. In the equatorial coordinate system they are: RA 17h45m40.04s, Dec -29° 00’ 28.1” (J2000 epoch).

Distance to the Galactic Center[edit]

The exact distance from the Sun to the Galactic Center is not certain. The latest estimates from geometric-based methods and standard candles yield distances to the Galactic Center between 7.6–8.7 kpc (25,000–28,000 light years).[6][7][8][9]

An accurate determination of the distance to the Galactic Center as established from variable stars (e.g., RR Lyrae variables) or standard candles (e.g., red clump stars) is hindered by countless effects, which include: an ambiguous reddening law; a bias for smaller values of the distance to the Galactic Center because of a preferential sampling of stars toward the near side of the Galactic bulge owing to interstellar extinction; and an uncertainty in characterizing how a mean distance to a group of variable stars found in the direction of the Galactic bulge relates to the distance to the Galactic Center.[9][10]
The nature of the Galaxy's bar which extends across the Galactic Center is also actively debated, with estimates for its half-length and orientation spanning between 1–5 kpc (short or a long bar) and 10–50 degrees.[8][9] [11] Certain authors advocate that the Milky Way features two distinct bars, one nestled within the other.[12]

The bar is delineated by red-clump stars (see also red giant), however, RR Lyr variables do not trace a prominent Galactic bar.[9][13][14] The bar may be surrounded by a ring called the "5-kpc ring" that contains a large fraction of the molecular hydrogen present in the galaxy, as well as most of the Milky Way's star formation activity. Viewed from the Andromeda Galaxy, it would be the brightest feature of our own galaxy.[19]

Supermassive black hole[edit]

A supermassive black hole resides in the bright white area, right of the center. This composite photograph covers about half of a degree.

Main article: Sagittarius A*

The complex astronomical radio source Sagittarius A appears to be located almost exactly at the Galactic Center (approx. 18 hrs, -29 deg), and contains an intense compact radio source, Sagittarius A*, which coincides with a supermassive black hole at the center of our Galaxy. Accretion of gas onto the black hole, probably involving a disk around it, would release energy to power the radio source, itself much larger than the black hole. The latter is too small to see with present instruments.

A study in 2008 which linked radio telescopes in Hawaii, Arizona and California (Very Long Baseline Interferometry) measured the diameter of Sagittarius A* to be 44 million kilometers (0.3 AU).[16][17] For comparison, the radius of Earth's orbit around the Sun is about 150 million kilometers (1.0 AU), while the distance of Mercury from the Sun at closest approach
(perihelion) is 46 million kilometers (0.3 AU). Thus the diameter of the radio source is slightly less than the distance from Mercury to the Sun.

Scientists at the Max Planck Institute for Extraterrestrial Physics in Germany using Chilean telescopes have confirmed the existence of a supermassive black hole at the Galactic Center, on the order of 4 million solar masses.\[19\]

Astronomers anticipate an increase of activity in the region of the black hole, giving opportunity for further study, in mid-2013, as it is expected that a large gas cloud will be disrupted by close approach. \[19\]

Stellar population[edit]

Galactic Center of the Milky Way and a meteor.

The central parsec around Sagittarius A* contains thousands of stars. Although most of them are old red main-sequence stars, the Galactic Center is also rich in massive stars. More than 100 OB and Wolf–Rayet stars have been identified there so far.\[20\]

They seem to have all been formed in a single star formation event a few million years ago. The existence of these relatively young (though evolved) stars was a surprise to experts, who expected the tidal forces from the central black hole to prevent their formation.

This paradox of youth is even more remarkable for stars that are on very tight orbits around Sagittarius A*, such as S2 and S0-102. The scenarios invoked to explain this formation involve either star formation in a massive star.
cluster offset from the Galactic Center that would have migrated to its current location once formed, or star formation within a massive, compact gas accretion disk around the central black-hole.

Most of these 100 young, massive stars seem to be concentrated within one (according to the UCLA group) or two (according to the MPE group) disks, rather than randomly distributed within the central parsec. This observation however does not allow definite conclusions to be drawn at this point.

Star formation does not seem to be occurring currently at the Galactic Center, although the Circumnuclear Disk of molecular gas that orbits the Galactic Center at two parsecs seems a fairly favorable site for star formation. Work presented in 2002 by Antony Stark and Chris Martin mapping the gas density in a 400-light-year region around the Galactic Center has revealed an accumulating ring with a mass several million times that of the Sun and near the critical density for star formation.

They predict that in approximately 200 million years there will be an episode of starburst in the Galactic Center, with many stars forming rapidly and undergoing supernovae at a hundred times the current rate. The starburst may also be accompanied by the formation of galactic jets as matter falls into the central black hole. It is thought that the Milky Way undergoes a starburst of this sort every 500 million years.

In addition to the "paradox of youth", there is also a "conundrum of old age" associated with the distribution of the old stars at the Galactic Center. Theoretical models had predicted that the old stars—which far outnumber young stars—should have a steeply-rising density near the black hole, a so-called Bahcall–Wolf cusp.

Instead, it was discovered in 2009 that the density of the old stars peaks at a distance of roughly 0.5 parsec from Sgr A*, then falls inward: instead of a dense cluster, there is a "hole", or core, around the black hole.[21]

Several suggestions have been put forward to explain this puzzling observation, but none is completely satisfactory.[22][23] For instance, although the black hole would eat stars near it, creating a region of low density, this region would be much smaller than a parsec.

Because the observed stars are a fraction of the total number, it is theoretically possible that the overall stellar distribution is different than what is observed, although no plausible models of this sort have yet been proposed.
Galactic Anti - Center

The galactic anticenter is a theoretical point in the sky that lies directly opposite the center of the Milky Way Galaxy. Because this point is relative, it varies, depending on the location of the observer; it is not an actual fixed point in space. Most of the time, this term refers to the anti-center from the point of view of an observer on Earth. [1][2][3]

Moreover, it is to be noted that points within the sky are not confined to a finite area; in other words, two objects in different galaxies can both be in the galactic anticenter as long as they are in the direction opposite of the direction of galactic center (much like how the stars in a constellation may be completely unrelated despite appearing visually close to each other).

From the perspective of an observer on Earth, the galactic anticenter appears within the constellation Auriga, and Alnath is the closest bright star to this point.

In terms of the galactic coordinate system, the galactic center in Sagittarius corresponds to a longitude of 0°, while the anticenter is located exactly at 180°. [4] In the equatorial coordinate system, the anticenter is found at roughly R.A. 05h 46m, Dec. +28° 56'.
Beta Tauri (β Tau, β Tauri) is the second brightest star in the constellation Taurus, with an apparent magnitude of 1.68.[1] Because it is on the boundary of Taurus and Auriga, it also has the redundant Bayer designation Gamma Aurigae (γ Aur), which today is rarely used. The star has the traditional name Elnath—a reference to "the butting" of the bull's horns.

Properties[edit]

Elnath's absolute magnitude is -1.34, similar to another Taurean star, Maia in the Pleiadian star cluster. Like Maia, Elnath is a B class giant with a luminosity 700 times solar.[4] However being approximately 130 light years distant compared to Maia’s estimated 360 light years, Elnath ranks as the second brightest star in the constellation.

Uniquely positioned along the plane of our Milky Way Galaxy a few degrees west of the galactic anticenter, Elnath heralds a rich collection
of nebulae and star clusters. Relative to our Sun, β Tauri is notable for a high abundance of manganese, but little calcium and magnesium. This star has begun to evolve away from the main sequence.

This star can be occulted by the moon. Such occultations occur when the moon's ascending node is near the vernal equinox, as is the case in 2007. Most occultations are visible only in parts of the Southern Hemisphere, because the star lies at the northern edge of the lunar occultation zone. Rarely, it may be occulted as far north as southern California.

Double star[edit]

There is a faint star that appears close enough to Elnath for astronomers to consider it a double star. Its visual companion, known as BD+28 795B, has a PA of 239 degrees and is separated from the main star by 33.4 arcseconds.

Etymology[edit]

Beta Tauri has the traditional name Elnath, El Nath, or Alnath, which comes from the Arabic word النطح an-nath, meaning "the butting" (i.e. the bull’s horns). As in many other (but not all) Arabic star names, the article ّ is transliterated literally as el, despite the fact that in Arabic pronunciation it is assimilated to the following n; it can also be omitted: Nath.

In Chinese, 五車 (Wǔ Ju), meaning Five Chariots, refers to an asterism consisting of β Tauri, ι Aurigae, Capella, β Aurigae and θ Aurigae. Consequently, β Tauri itself is known as 五車五 (Wǔ Ju wǔ; English: Fifth of the Five Chariots.)
“Black Holes” at Galactic Center

Can a Satellite Galaxy Merger Explain the Active Past of the Galactic Center?

Meagan Lang, Kelly Holley-Bockelmann, Tamara Bogdanovic, Pau Amaro-Seoane, Alberto Sesana, Manodeep Sinha
(Submitted on 14 Jul 2011 (v1), last revised 6 Feb 2013 (this version, v2))

Observations of the Galactic Center (GC) have accumulated a multitude of "forensic" evidence indicating that several million years ago the center of the Milky Way galaxy was teaming with star-forming and accretion-powered activity -- this paints a rather different picture from the GC as we understand it today. We examine a possibility that this epoch of activity could have been triggered by the infall of a satellite galaxy into the Milky Way which began at the redshift of 10 and ended few million years ago with a merger of the Galactic supermassive black hole with an intermediate mass black hole brought in by the inspiralling satellite.

Comments: 9 pages, 1 figure, accepted by MNRAS. Comments are welcome

Subjects: Galaxy Astrophysics (astro-ph.GA); Cosmology and Extragalactic Astrophysics (astro-ph.CO)

Cite as: arXiv:1107.2923 [astro-ph.GA]

(or arXiv:1107.2923v2 [astro-ph.GA] for this version)

Submission history
Discussion

In this section the author discusses a few quotes from the paper above. First, this quote from the introduction fits in neatly with the Vedic Physics concept of a square or standing wave forming when two different states of matter collide.

*Although there are alternative steady state models for forming the bubbles (Crocker et al. 2011), the well defined shock fronts at their edges suggest an abrupt origin.*

The common origin of the star clusters are likely to be the collision of two states of matter, 8 x 8 or 9 x 9: the satellite galaxy and the Substratum field of matter at the Galactic Center.

*It is possible that the three clusters have a common origin and that they have formed as a consequence of a single event that triggered the flow of the copious amounts of gas into the central ∼ 50 pc in the Galaxy.*

The Thaamic Substratum consists of highly compressed matter, and we shall see below that such clashes may result in extrusion of material.

*Such densities can only be achieved through highly compressive events (Figer 2008) and it is plausible that both the inflow of large amounts of gas into the GC and its shocking and compression have been caused by a common culprit.*

If there exists blame in nature, then Vedic Physics suggests the collision of two different states of matter would be to blame. Vedic Physics posits the timeline as 13 billion years, according to a book on Vedic Physics.

*We propose that the timeline began about 13 Gyr ago, when the proto Milky Way accreted a small satellite dark matter halo at the time when their haloes were physically closer and less massive. The satellite orbit decayed slowly and only reached the GC a few million years ago, after having been stripped of most its mass.*
It is important to define what the Galactic Alignment is in precise astronomical terms. (See the Glossary below for terms.)

The Galactic Alignment is the alignment of the December solstice sun with the Galactic equator. This alignment occurs as a result of the precession of the equinoxes.

Precession is caused by the earth wobbling very slowly on its axis and shifts the position of the equinoxes and solstices one degree every 71.5 years. Because the sun is one-half of a degree wide, it will take the December solstice sun 36 years to precess through the Galactic equator (see diagram below).
The precise alignment of the solstice point (the precise center-point of the body of the sun as viewed from earth) with the Galactic equator was calculated to occur in 1998 (Jean Meeus, *Mathematical Astronomy Morsels*, 1997).

Thus, the Galactic Alignment "zone" is 1998 +/- 18 years = 1980 - 2016. This is "era-2012."

This Galactic Alignment occurs only once every 26,000 years, and was what the ancient Maya were pointing to with the 2012 end-date of their Long Count calendar.

These are the astronomical facts of the matter. From a larger perspective, we can visualize the 2012 Galactic Alignment in the following way:
Position A is where the December solstice sun was in relation to the Milky Way some 3,000 years ago. Position B is 1,500 years ago. And position C is "era-2012", when the December solstice sun has converged, as a result of the precession of the equinoxes, with the exact center-line of the Milky Way (the Galactic equator). Notice that the place of alignment is where the 'nuclear bulge' of the Galactic Center is located.

A long awaiting digital portrayal of precession and galactic alignments is now available on Nick Fiorenza's web site.
Descriptions of the process are also there, but it should be noted that Nick describes what I refer to as "the solstice-galaxy alignment" with a preference for the equinox as the measuring reference. Thus, he speaks of the "Holy Cross" of the equinox axis and the Milky Way. The point is that "solstice-galaxy alignment" and "equinox-galaxy cross" refer to the same event.

It is my hope that these definitions will help to standardize the terminology so we can clearly discuss the rare precessional alignment that culminates in era-2012.

The ecliptic: The path followed by the sun, moon, and planets. It is the plane of our solar system. The ecliptic encircles the earth and is divided into twelve constellations, or zodiac signs.

The Milky Way: The bright band of star that our solar system belongs to. It encircles the earth and is wider in the region of Sagittarius because that is where the 'nucelar bulge' of the Milky Way's center is located (our Milky Way is saucer shaped).

The Galactic equator: The precise mid-line running down the Milky Way. Analogous to the earth's equator, it divides the galaxy into two hemispheres, or lobes.

The Dark Rift in the Milky Way: A feature caused by interstellar dust that runs along the Milky Way from the Galactic Center northward past the constellation of Aquila.

The December solstice sun: The sun, on the December solstice. It is one-half of a degree wide.

The December solstice point: The precise midpoint of the sun, on the December solstice.

The Precession of the equinoxes: The earth wobbles very slowly on its axis and this causes the position of the equinox to shift backwards, or precess, through the signs of the ecliptic at the rate of one degree every 71.5 years. The full precessional wobble is complete in roughly 25,800 years.

The vernal equinox point is defined by the intersection of the ecliptic and the celestial equator.

The Celestial Equator: The earth's equator projected into the stars. It is the plane of the earth's rotation.
The Cross formed by the Milky Way and the ecliptic: Exactly as stated. There are two of these, one in early Sagittarius, the other in early Gemini. The former cross has the virtue of being located within the nuclear bulge of the Galactic Center.

The nuclear bulge / the Galactic Center: A bright and wide region of the Milky Way, visible to the naked eye and between Sagittarius and Scorpio. The more precise and abstract center-point of the nuclear bulge is the precise Galactic Center, located at about 6 degrees Sagittarius (sidereal) and 27 degrees in the tropical zodiac.

Additional Glossary of Mayan Calendar terms

We can have a more general discussion of galactic alignments in history if we consider that the solstice axis aligns with the galactic equator every half precession cycle. Likewise, the equinox axis aligns with the galactic equator every half precession cycle. Thus, galactic alignments, more generally speaking, occur in era 2012 (1980 - 2016) and every quarter precession cycle before and after era 2012.

In terms of Mayan astronomy and mythology, the Dark Rift feature (which the Maya called the Black Road or Xibalba be) lies along the galactic equator (the Milky Way) in the place where the December solstice sun will be in 2012. (More precisely, the December solstice sun will reach the southern terminus of the Dark Rift, where it touches the ecliptic in Sagittarius.) Thus, in terms of Mayan mythology, we can also describe the Galactic Alignment of era-2012 as the alignment of the December solstice sun and the Dark Rift.

This entire region is targeted by the cross formed by the Milky Way and the ecliptic between Sagittarius and Scorpio. This Cross was recognized by the Maya, and was called the Crossroads or Sacred Tree. This entire region is embraced by what astronomers call the 'nuclear bulge' of the Galactic Center—the center of our Milky Way galaxy.

As any amateur astronomer or naked-eye star gazer knows, this nuclear bulge is recognizable without the aid of radio telescopes. It is wider and brighter than other parts of the Milky Way. So, in a general sense we can also say that the alignment in 2012 is an alignment between the December solstice sun and the Galactic Center.

However, since the nuclear bulge is quite large, this definition is not as precise as saying "the alignment of the December solstice sun with the Galactic equator", which occurs in the range 1980 - 2016. This is the alignment zone I refer to with the term "era-2012."
Discussion

It is of small wonder that the Mayan Underworld was known as Xibalba, and that it is located at Galactic Center, since that region of our galaxy contains a large body of Thaamasic matter, what scientists have called a “black hole.” Just as other ancient cultures have referred to the Substratum as Hell or the Underworld (please see the author’s previous papers on Vixra).

In the section above, Jenkins clearly explains the terms and phenomenon of 2012, with the much more significant window of 1980 to 2016. Just because the Mayan Calendar supposedly ended in 2011 or in 2012 doesn't mean that the danger is over. In fact, with each passing day of no disaster, it simply means that we move one day closer to the inevitable Pole Shift or flooding.

Mainstream academics argue that the Mayans, or most of them, simply abandoned their cities one day and disappeared, with no satisfactory explanation as to why that might be so. Over the past decade, many crop circles have appeared in southern England with Mayan motifs. The author hypothesizes that most of the Mayan people escaped planet Earth before the last major catastrophe, and the annual crop circles are coded messages to help insure that some humans survive the coming cataclysms.
Table 2. New Moons which lie near the Sun and the galactic center as seen from Earth

<table>
<thead>
<tr>
<th>Lunar date</th>
<th>Right Ascension</th>
<th>Declination</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 26, 2008</td>
<td>17 hr 45 min</td>
<td>-26 degrees</td>
</tr>
<tr>
<td>December 16, 2009</td>
<td>17 hr 45 min</td>
<td>-25 degrees</td>
</tr>
<tr>
<td>December 06, 2010</td>
<td>17 hr 45 min</td>
<td>-23 degrees</td>
</tr>
<tr>
<td>December 23, 2011</td>
<td>17 hr 45 min</td>
<td>-22 degrees</td>
</tr>
<tr>
<td>December 13, 2012</td>
<td>17 hr 45 min</td>
<td>-20 degrees</td>
</tr>
<tr>
<td>December 14, 2012</td>
<td>18 hr 30 min</td>
<td>-19 degrees</td>
</tr>
<tr>
<td>galactic center Sgr A*</td>
<td>17 hr 45 min</td>
<td>-29 degrees</td>
</tr>
<tr>
<td></td>
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<tr>
<td>----------------------</td>
<td>---------------</td>
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</tr>
<tr>
<td>galactic center dark rift</td>
<td>18 hr 00 min</td>
<td>-22 degrees</td>
</tr>
<tr>
<td>galactic center SSC</td>
<td>18 hr 15 min</td>
<td>-18 degrees</td>
</tr>
<tr>
<td>Sun on December 13</td>
<td>17 hr 20 min</td>
<td>-23 degrees</td>
</tr>
<tr>
<td>Sun on December 14</td>
<td>17 hr 30 min</td>
<td>-23 degrees</td>
</tr>
<tr>
<td>Sun on December 21</td>
<td>18 hr 00 min</td>
<td>-23 degrees</td>
</tr>
</tbody>
</table>

These photos and chart were borrowed from articles by Red Collie, who speculates online about the meaning of the crop circles and the significance of the Mayan symbolism.
Vedic Physics can easily explain the phenomena of the Satellite Galaxy, the cluster of new stars near the Galactic Center and the supposed existence of a “Black Hole” near the Galactic Center. The Satellite Galaxy obviously consists of a visible form of matter, either Raja or Satva, either 8 x 8 or 9 x 9 in form. The combination of one of these types of matter with the Thaamic Substratum brings in a new combinatorial count, which influences the Substratum. This leads to radiation of new matter.

Theorem No. 32 of Vedic Physics explains how this happens in detail.

Potential rises to the 13\textsuperscript{th} power to accelerate, superpose and to radiate. Consequently, the kinetic interactive rate rises to the 10\textsuperscript{th} power to accelerate, superpose and radiate.

That means to say that the self - similar compression or super - positioning factor 1+x, applied to the normal oscillatory state of the Substratum, raises it to the 13\textsuperscript{th} power from its expansive and radiant state of C, raised to 1-x. The numbers are log index.
Green 16 represents the interactive value of $C^2$ in the resonant Raja state. In a balanced state the coherent, perpetual, self-similar interaction polarises the internal state into light blue 3, the expanded Sathwa state, and the pink 5 Thaama state.

As the result of an impact from a neighbouring component, its light blue 3 adds to its existing value as $5+5+3 = 13$. That shifts the balance from the previous centred state to blue 3 and red 13. Therefore the red 13 acts as a simultaneous coherent unit and transfers the extra 3 to the next unit and returns to its original balance state.

This easily understandable process of transference of counts to radiate phenomena is portrayed with extreme clarity. Converting it to values in physics shows how electromagnetic phenomena function. Using $C$ as the velocity of light, the following numbers emerge as axiomatic values, for $C$ is derived:

<table>
<thead>
<tr>
<th>Color</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>8+8=16</td>
</tr>
<tr>
<td>Red</td>
<td>10+3=13</td>
</tr>
<tr>
<td>Blue</td>
<td>3</td>
</tr>
<tr>
<td>Pink</td>
<td>5+5=10</td>
</tr>
<tr>
<td>Light-blue</td>
<td>3+3=6</td>
</tr>
</tbody>
</table>
Permeability $\mu$, the electromagnetic coupling $\alpha$ and lastly the electron charge in mks units are shown by the side of the Aharana, Dhaharana Prakashyam and Karanam values all axiomatically derived.

Physical measurements are affected by the simultaneous coupling constant $P_x$, (not derived because it is hidden) and the equivalent values are shown as a rigorous logical derivation.

When two counts act simultaneously in less than

$$1/C^{1-x}$$

of a cyclic period, the two act as one and reflect as the increase in mass.

For this reason, charge beyond

$$(C^{1+x})^2$$

changes into a mass value. The same equivalent value is derived in general relativity too to indicate a mass value in terms of displacement/length.

A notable point at this exotic interface of the Ahankar region, is that the potential changes by breaking resonance between the two axes in the Raja resonant region across a $k-1$ gap to radiate Vrithis (Photons). The proof is in
the mass-energy value of the 7th neutrino of 53.2 electron volts (EV) to the 13.6 EV of the hydrogen radiant spectrum.

**Hydrogen Analysis**

Energy level diagrams and the hydrogen atom

It's often helpful to draw a diagram showing the energy levels for the particular element you're interested in. The diagram for hydrogen is shown above.

The n = 1 state is known as the ground state, while higher n states are known as excited states. If the electron in the atom makes a transition from a particular state to a lower state, it is losing energy. To conserve energy, a photon with an energy equal to the energy difference between the states will be emitted by the atom.

Consider the photon emitted when an electron drops from the n=4 to the n=2 state to the photon emitted when an electron drops from n=3 to n=2. Which photon has the longer wavelength?

1. The photon emitted in the n=4 to n=2 transition
2. The photon emitted in the n=3 to n=2 transition

The smaller the energy the longer the wavelength. The photon has a smaller energy for the n=3 to n=2 transition.

In the hydrogen atom, with Z = 1, the energy of the emitted photon can be found using:

\[ E = (13.6 \text{ eV}) \left[ \frac{1}{n_f^2} - \frac{1}{n_i^2} \right] \]

Atoms can also absorb photons. If a photon with an energy equal to the energy difference between two levels is incident on an atom, the photon can be absorbed, raising the electron up to the higher level.
Sample Problem

The electron in a hydrogen atom is in the n = 2 state. When it drops to the ground state a photon is emitted. What is the wavelength of the photon? Is this in the visible spectrum?

One way to do this is to first calculate the energy of the electron in the initial and final states using the equation:

\[ E_n = \frac{(-13.6 \text{ eV})}{n^2} \]

\[ E_2 = \frac{(-13.6 \text{ eV})}{4} = -3.4 \text{ eV} \]

\[ E_1 = \frac{(-13.6 \text{ eV})}{1} = -13.6 \text{ eV} \]

In dropping from the n = 2 state to the ground state the electron loses 10.2 eV worth of energy. This is the energy carried away by the photon.

Converting this to joules gives

\[ E = 10.2 \times 1.60 \times 10^{-19} \text{ J/eV} = 1.632 \times 10^{-18} \text{ J} \]

For a photon \( E = hf = hc/\lambda \)

\[ \lambda = \frac{hc}{E} = \frac{6.63 \times 10^{-34} \times 3 \times 10^8}{1.632 \times 10^{-18}} \]

\[ \lambda = 1.22 \times 10^{-7} \text{ m} = 122 \text{ nm} \]

This is in the ultraviolet part of the spectrum, so it would not be visible from [http://physics.bu.edu/~duffy/semester2/c37_energylevels.html](http://physics.bu.edu/~duffy/semester2/c37_energylevels.html)
By placing the illustration below as the enlarged region in the central zone, Planck's Constant, with a potential value of 7 Ne or 372 EV, resides in the hole while the Ne of 53.2 EV stays at the bottom of the well, and the Hydrogen spectrum of 13.6 EV radiates from the outer lip through 7 nodal levels shown in the figure. Spontaneous creation of various particle states depends on density of interactive stable counts in each region, and is shown in the axiomatic derivations.

As a consequence, Neutron and Proton states are just the interactive counts at the top or bottom of the inner side of the well and the leptonic Electron or Neutrino states are similar bottom or top positions on the outer rim of the well. Similarly, Plank's Constant of 7 Ne and Ne are the top and bottom states of the inner side of the well, while the Vrithi (photon) of Ne (k-1) value radiate from the outer rim.

These particulate states are created by hidden potential interaction that releases no evidence of its action. Because superpositioning or phase-locking (simultaneous interactions) are carried out within a cycle of 10 counts, this forms a ‘logarithmical instant’.

Consequently, only the log index of cyclic changes of ten counts/cycle alter the values. In between, only the phase or angular relationships change without creating any detectable displacement. The hidden potential change is a magnificent simultaneous operation created only by the axiomatic conditions of all related parameters.

Gravitational Force: Satellite Galaxy pulled towards “Black Hole”
The enigma of gravity being a one-sided movement or force is explained by the fact that when a large number of interactive states act simultaneously and synchronously a proportionate number of reactive counts to act simultaneously, with the result a gap in the interactive cycle is created. The gap in interactive response creates an inward or “attractive force”.

The phenomenon of inward acceleration is to be seen as spheres or rings of simultaneous interactive states moving towards a ‘mass’ because the reactive response has failed to arrive in time to maintain the balanced location. The aggregative units of interactive states represent a movement of stresses.
Conclusion

The Feb. 2013 paper about the Satellite Galaxy colliding into “black holes” perfectly explains these concepts of Vedic Physics. First, the reference to 13 billion years is precisely predicted by Vedic Physics, and appears in a book about Vedic Physics and the border between two separate states of matter. Of course, this is the estimated age of the Universe.

Second, there is no such thing as a “black hole.” There is a state of matter, the third, invisible state, which comprises matter akin to what is regarded as black hole matter, yet encompassing Dark Matter and Dark Energy. Altogether it is known as the Substratum, and the author has written a series of papers which describe this Substratum or Thaamic realm, in Sanskrit. The Substratum vibrates at the natural e logarithm of 2.718…and actually makes up what scientists mis – interpret as the Cosmic Wave Background (CMB).

Third, any galaxy acts as one body, or rigid rod, just as an atom acts as one body. A galaxy consists of visible matter, in this case, matter of the Raja kind. When two types of matter merge, Vedic Physics anticipates this condition and describes it, as above in the section on the Vedic Physics explanation. The emission of gamma rays confirms the phenomenon.

The observations described by the paper confirm the existence of the phenomena described in Vedic Physics, as well as the concept that the Mayan Calendar marks the return to the Galactic Center, and that this is a major galactic event that holds major implications for Earth and thus for humanity. The problem is how to separate the science from the commercial Hollywood Hype that inflated the 20 December 2012 non – event in order to make piles of money from people who sold misinformation and disinformation.

One website states the following:

Others analyze the 13,000 and 26,000 year cycles of the Galactic Superwaves in the context of spiritual and prophetic texts. Under the Mayan Calendar, this TUN, or organic unit of Galactic time is scheduled to end and a new TUN is scheduled to begin on December 21, 2012. According to the "Prophetic" frame of perception, the
December 26-27, 2005 Gravity Wave/Tsunami was a Warning that humanity should move out

This paper posits the occurrence of Pole Shift and / or an Ice which took place at some time roughly 12,000 years ago, either before or after 10,000 BC. John Major Jenkins has shown that the actual window for occurrence of phenomena related to the Galactic Center would be eighteen years, within eight years before or eight years after his target date of 2012 (2011 by Calleman).

The Earth's and the Sun's journey around the Milky Way Galaxy takes approximately 26,000 years. Half of 26,000 equals 13,000 years. If one takes the Mayan calendar and its final date of 28 October 2011 (Calleman) or 20 December 2012 (Jenkins) as the best educated guess, then perhaps the Mayans derived the start date of their calendar from the last globally cataclysmic Ice Age 13,000 years ago? In other words, our Solar System and planet Earth suffer cataclysms every thirteen thousand years as a direct result of events at Galactic Center.

Vedic Physics posits the existence of a gap in structures, and a galaxy differs not from an atom in this theory, so a galaxy functions in the same way as all other structures. Therefore, there must be a gap located at the Galactic Center, known as a transfer point, and a corresponding point located 180 degrees opposite that gap. Whenever our Solar System reaches this point in its journey around the galaxy, then our planet suffers a cataclysm which originates at events located at the Galactic Center.

That means to say that the end of the Mayan Calendar may mark the point in time when we should expect a major cataclysm, within a window of sixteen years, either eight years before or eight years after, or between 2004 and 2020.

Wikipedia informs that Earth has been in the same Ice Age for 2.6 million years, which may have included exactly 200 Ice Ages, with each Ice Age apparently separated by 13,000 years. The following graph from Wikipedia indicates some form of periodic spike in readings. While the graph shows major spikes in readings of temperature, dust and carbon dioxide, these tend to occur once every 100 million years.

A series of small spikes builds up to those peaks, and the smaller spikes could consist of cycles of 13,000 or 26,000 years. A definitive answer to this question deserves more in – depth research than is possible in this paper.
The current ice age, the Pliocene-Quaternary glaciation, started about 2.58 million years ago during the late Pliocene, when the spread of ice sheets in the Northern Hemisphere began.

Since then, the world has seen cycles of glaciation with ice sheets advancing and retreating on 40,000- and 100,000-year time scales called glacial periods, glacial advances, and interglacial periods, interglacial advances or glacials retreating. The earth is currently in an interglacial, and the last glacial period ended about 10,000 years ago. All that remains of the continental ice sheets are the Greenland and Antarctic ice sheets and smaller glaciers such as on Baffin Island.

Ice ages can be further divided by location and time; for example, the names Riss (180,000–130,000 years bp) and Würm (70,000–10,000 years bp) refer specifically to glaciation in the Alpine region. Note that the maximum
extent of the ice is not maintained for the full interval. Unfortunately, the scouring action of each glaciation tends to remove most of the evidence of prior ice sheets almost completely, except in regions where the later sheet does not achieve full coverage.

By this definition, we are still in the ice age that began 2.6 million years ago at the start of the Pleistocene epoch, because the Greenland, Arctic, and Antarctic ice sheets still exist.[2]

**Discussion**

Even Wikipedia contradicts itself on whether the current Glacial Age is 2.6 million or 2.8 million years old. It remains doubtful whether our science can presently give us a correct, specific answer to this question, and the best we can do is make guestimates such as these quoted by Wikipedia – not exactly precise.

Precision is what we need, if we are to anticipate global disasters based on the Galactic Center and the Solar System's alignment with the center. For one reason or another, the Mayan calendar gives us a specific date, whether one takes October 2011 or December 2012, and a window of sixteen years. That appears far more precise than any number that scientists may derive from studying ice ages.

This quote from the book on Vedic Physics deserves in-depth study, since it may provide clues as to how to survive or manage the crisis:

The Abhimaan interface between the $C^3$ Thaamasic and a spectrum of Raja states varying from $C^2$ to $C$, in cyclic periods extending over 13 billion years, forms an unusual junction or transfer point. Two opposite locations of the Abhimaan gap must be dealt with synchronously but not simultaneously. It means the interactive event in the Raja Abhimaan interface need not be found in the same location.
The paper quoted herein states:

The picture of the GC as a once powerful nucleus has begun to emerge from circumstantial observational evidence, most recently strengthened by a discovery of the “Fermi bubbles”, a pair of giant gamma-ray emitting bubbles that extend nearly 10 kpc north and south of the GC (Dobler et al. 2010; Su et al. 2010).

Although there are alternative steady state models for forming the bubbles (Crocker et al. 2011), the well defined shock fronts at their edges suggest an abrupt origin.

**W-WIMP Annihilation as a Source of the Fermi Bubbles**

Luis Alfredo Anchordoqui, Brian James Vlcek

*(Submitted on 20 May 2013 (v1), last revised 27 Aug 2013 (this version, v6))*

The Fermi Gamma-ray Space Telescope discovered two gamma-ray emitting bubble-shaped structures that extend nearly symmetrically on either side of our Galaxy and appear morphologically connected to the Galactic center. The origin of the emission is still not entirely clear. It was recently shown that the spectral shape of the emission from the Fermi bubbles is well described by an approximately 50 GeV dark matter particle annihilating to b \(\bar{b}\), with a normalization corresponding to a velocity average annihilation cross section of \(\langle \sigma_b v \rangle \approx 8 \times 10^{-27} \text{ cm}^3/\text{s}\). We study the minimal hidden sector recently introduced by Weinberg and examine to what extent its weakly-interacting massive particles (W-WIMPs) are capable of accommodating both the desired effective annihilation rate into quarks and the observed relic density.
This latter paper perhaps may come closest to explaining the phenomena which are occurring at Galactic Center. Whether or not the Galactic Center will produce gamma waves or other forces which will cause catastrophic damage on Earth remains an open question. The book on Vedic Physics which is the chief source of information for this paper does not mention gamma rays or radio waves, but mentions waves in general.

Therefore, while Vedic Physics cannot at present explain all of the phenomena recently taking place at Galactic Center, it can explain much of what has transpired and that continues to transpire. Further research in this area may allow Vedic Physics to predict events, and the author will continue to research this topic in future.

It may well prove the case that our Solar System suffers catastrophes every 13,000 years, and that these are related to events at Galactic Center. One possible avenue of research would be to trace the path of the Galactic Center to see whether some source there has caused disasters in nearby areas of the Universe, prior to our region. Likewise, researchers may check for bursts of gamma rays in that part of the Universe.

The Maya Calendar may well have been timed from the last global cataclysm, and its precision appears uncanny for a people who appear no more today than hunters and gatherers in the tropical jungle. Yet the Mayans built a great civilization, and if we remember that humanity is in the process of devolution, then perhaps this would make sense.

A further point of speculation regarding the Maya is that they took advantage of advanced ancient science to flee the planet, as hinted at in various statues and paintings left behind. Some of those who engrave crop circles in the English countryside each summer employ Mayan motifs, and this must be more than coincidence. Perhaps Mayans escaped past cataclysms and now reside elsewhere in the Universe, and crop circle messages are a means of warning Earth's current inhabitants about disasters waiting to happen in the near future.

While this all appears as speculation, Vedic Physics offers the most compelling and believable explanation for the events at Galactic Center, and thus may end up as the most trustworthy guide during difficult times. The author hopes to make a more detailed study of this problem in the near future.
Appendix I

There is growing evidence that several million years ago the galactic center was the site of violent cosmic events. A team of assistant professors – Kelly Holley-Bockelmann at Vanderbilt and Tamara Bogdanović at Georgia Institute of Technology – came up with an explanation that fits these “forensic” clues, suggesting how a single event – a violent collision and merger between the galactic black hole and an intermediate-sized black hole in one of the small “satellite galaxies” that circle the Milky Way – could have produced the features that point to a more violent past for the galactic core.

The most dramatic of these extraordinary clues are the Fermi bubbles. In 2010, NASA’s Fermi Gamma-ray Space Telescope unveiled a previously unseen structure centered in the Milky Way --two gamma-ray-emitting bubbles that extend 25,000 light-years north and south of the galactic center that spans 50,000 light-years and may be the remnant of an eruption from a supersized black hole at the center of our galaxy.

The structure spans more than half of the visible sky, from the constellation Virgo to the constellation Grus, and it may be millions of years old. "We don't fully understand their nature or origin," said Doug Finkbeiner, an astronomer at the Harvard-Smithsonian Center for Astrophysics, who first recognized the feature by processing publicly available data from Fermi’s Large Area Telescope (LAT). The LAT is the most sensitive and highest-resolution gamma-ray detector ever launched. Gamma rays are the highest-energy form of light.

"In other galaxies, we see that starbursts can drive enormous gas outflows," said David Spergel, a scientist at Princeton University. "Whatever the energy source behind these huge bubbles may be, it is connected to many deep questions in astrophysics."

One possibility beyond the Holley-Bockelmann and Tamara Bogdanović theory includes a particle jet from the supermassive black hole at the galactic
center. In many other galaxies, astronomers see fast particle jets powered by matter falling toward a central black hole. While there is no evidence the Milky Way's black hole has such a jet today, it may have in the past. The bubbles may have formed as a result of gas outflows from a burst of star formation, perhaps the one that produced many massive star clusters in the Milky Way's center several million years ago.

The scenario began about 13 billion years ago, when the path of one of the smaller satellite galaxies orbiting the Milky Way is diverted so that it began drifting inward toward the core. According to a recent study, this may have happened dozens of times in the lifetime of the Milky Way.

As the satellite galaxy – a collection of stars and gas with an intermediate-sized black hole with a mass equal to about 10,000 suns – spiraled in, most of its mass was gradually stripped away, finally leaving the black hole and a handful of gravitationally bound stars.

Appendix II

Mass Extinction of Animals 13,000 Years Ago

Scientists find signs of 13,000-year-old extinction event
Chicago Tribune | January 2, 2009 | Robert Mitchum

Comet may have exploded over planet, causing fires, die-offs, researchers say.

A meteorite colliding with the Earth 65 million years ago is considered to be the most likely reason dinosaurs vanished from the planet. Now a team of scientists says it has found new evidence that an object from space caused a similar extinction event only 13,000 years ago.

In an article to be published Friday in the journal Science, researchers present what one author calls the "smoking bullet"—proof that an exploding comet triggered the sudden, thousand-year freeze that killed off mammoths, saber-toothed tigers and other large mammals that used to live in North America.

Working at multiple sites across the continent, researchers found nanodiamonds—microscopic particles thought to be found on comets—in a 13,000-year-old layer of carbon-rich soil.

The authors, led by University of Oregon anthropologist Douglas Kennett, theorize that the comet exploded above the Earth's surface, raining fragments upon North America and starting fires across the continent. That would have ushered in an abrupt global cooling and caused the "megafauna" extinction.

In the layer with the nanodiamonds, fossils of the large mammals are abundant. After that layer, they disappear, said Allen West, an Arizona geophysicist and one of the paper's authors.

"It's extraordinary that tens of millions of animals disappeared synchronously at exactly the time when the diamonds and carbon layer are laid down across the continent," West said.

West said the event also would have affected human populations of the time.
Artifacts from the Clovis culture of humans—an early hunter-gatherer society—also disappear after the 13,000-year layer, suggesting they, too, were killed off by the comet or its aftereffects.
Some men see things as they are and say why? I dream things that never were and say why not?

Let's dedicate ourselves to what the Greeks wrote so many years ago: to tame the savageness of man and make gentle the life of this world.

Robert Francis Kennedy (1925-11-20 - 1968-06-06)