

HAVE YOURSELF A MERRY DOG STAR CHRISTMAS

Copernicus
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*“And then, as we have taken the sacrament
We will unite the white rose and the red:
Smile heaven upon this fair conjunction,
That hath long frown’d upon their enmity”*

Earl of Richmond
Richard III

I

On the Heliacal Rising of Sirius

As we read the former Earl and soon to be crowned King Henry the VII’s poetic request to heaven at the conclusion of Shakespeare’s *King Richard III*—32 years to the day when man first walked on the moon—in many ways we have moved far from the bleak winter of their discontent. In others ways we have not. For while the Hubble telescope orbits miles above our heads sending back surreal images of the Universe’s distant beginnings, every Communion Sunday in churches across the land Christians still religiously kneel as a counseled pre-condition of their salvation and ceremonially drink the “transubstantiated blood” of a Dying and Resurrecting Savior in faithful quests for the individual attainment of everlasting life. Encoded in stellar mythology by groups of pre-historic skywatchers, an archetypal version of Jesus’s sacrificial hero tale along with the origins of many other religious beliefs passed down to our own time may have been partially bound up in a poetic astronomical vocabulary which dates as far back as the megalithic monument raising era when early scientific knowledge about the revolving constellations was pragmatically passed down from generation to generation for seasonal planting and seafaring navigational purposes and perhaps, on a more mystical plane, dramatically acted out through some form of religious rituals whose real meaning we can only now guess at.

We are the modern inheritors of this antediluvian cosmology and it comes down to us in the form of a 1582 AD Gregorian Reform Calendar whose temporal architecture was based on the 45 BC Julian Calendar which in turn was derived by Julius Caesar, with the help of an Alexandrian astronomer named Sosigenes, from a 3000 year old Egyptian calendar whose cyclic regularity turned upon the annual heliacal rising of the bright bluish-white Dog Star Sirius with the sun. Following Sosigenes’s advice, Rome’s founding emperor forged a solar almanac with twelve lunar months of fixed lengths that

included calibrations for an intercalary day to be added every fourth year which led to an average length for the Julian calendar year of 365.25 days. Alone of all stars, the heliacal rising of Sirius, after its annual 70 day absence from the night sky, precisely matched that 365 day length and this reliable conjunction gave Sirius a singular “New Year’s Day” religious importance which perhaps led Jesus’s followers to yoke both his Bethlehem birth and the family tree of his “royal identity” to this regular celestial occurrence as recorded at both the beginning and end of the New Testament. First in *Matthew* 2:2 (“We have seen his star in the east”, “in the east” as written in the King James Bible being a slight mistranslation of the original Greek phrase EN TH ANATOLH which literally means “in the first light of dawn”) and lastly in St. John the Divine’s *Revelation* 22:16 (“I am the root and the offspring of David, and the bright and morning star”), thus linking their Jewish messianic tradition with those eastern Mediterranean “mystery religions” celebrating the Mother Goddess and her consort or son: a dying-resurrecting savior figure whose timelessly turning heavenly story may have been originally bound up with the 12 house zodiacal cycle of Earth’s solar/lunar calendar.¹

Located near Orion’s heel, Sirius (the “Scorcher”) was so bright the ancient Egyptians actually believed that summer’s deathly heat (our proverbial “dog days”) was caused by the extra light given off by this star which rose with the sun at dawn. Their heavenly “God” truly was, in the phrase of *Hebrews* 12:29, “a consuming fire”. Sirius later came to be Latinized as “Stella Maris” (Mary’s Star)—the Guardian Deity of mariners everywhere—a name which Rome also derived from Egypt where for centuries Sirius had been equated with the goddess Isis (and later her son Horus) as Robert Bauval corroborates in his fascinating essay “The Egyptian Star of Bethlehem”.² He joins the historical list of those naming Sirius as the star once “followed” by the 3 Magi and provides a very unusual astronomical hypothesis for the origins of our current Christmas date. It is now well established that Christ’s “official” December 25th birthday wasn’t actually proclaimed by church fathers until the mid 5th century.³

In Jesus’s time, the heliacal rising of Sirius with the Sun occurred on the morning of July 20⁴ as Santillana and von Dechend noted in “The Great Pan is Dead” chapter (p. 284 paperback edition) of their ground-breaking 1969 book of archaeo-astronomy titled *Hamlet’s Mill*:

“The lament of Tammuz-Adonis did not fall simply in ‘late summer’ it took place in the night between July 19 and 20, the exact date which marked the opening of the Egyptian year, and remained to determine the Julian calendar. For 3000 years it had marked the heliacal rising of Sirius.”

The evening prior to Sirius’s heliacal rising was observed with lamentations for Tammuz, one of the many variously named “lords” or “saviors” whose sacrificial death and resurrection was annually observed in localities all over the Mediterranean for many centuries. Tammuz, a Babylonian version of the Sumerian Dumuzi, was not only still having sacrifices made to him in Jerusalem during Jesus’s time, but according to St. Jerome, an early Church Father who worked at a Bethlehem monastery from 386 AD until his death in 420 AD, he also had a local shrine in Bethlehem. Tammuz was “the

harvest god...for whom first-fruits of grain were yearly brought from Bethlehem ('the house of bread')" to Jerusalem, wrote Robert Graves in his 1948 work of mythological speculation entitled *The White Goddess* (page 118 of the hardcover edition). Just two years earlier, Graves had published an unusual poetic novel named *King Jesus* in which he made the following claim for the religious importance of Sirius's heliacal rising (page 269):

*"According to Jewish Apocalyptic writers, the 9th of Ab was also the destined birthday of the Messiah, because the Messianic Star of Isaiah's prophecy was the Dog-star, the Calebite badge of the House of David."*⁵

July, the summer month named after that Roman Emperor who appropriated the Egyptian calendar from Sosigenes, is a rough analogue of both the 4th Jewish month of Tammuz as well as the 4th zodiacal house of Cancer (originally known to the Sumerians as "Nangar" which means "Carpenter"). Dante, perhaps drawing on the Greek astronomical tradition which locates the star cluster Praesepe ("Manger") in the constellation of Cancer, placed not only the "Living Star of Christ" there in the 23rd Cantos of his *Paradiso* (wherein Beatrice has turned from Gemini at the end of Cantos 22 to view Cancer's constellation), but all of Christ's triumphant heavenly hosts as well. One can't help be reminded here of Matthew's "star in the east" which "stood" above the manger in Bethlehem for those 3 Magi whom many stellar myth theorists have long equated with the 3 stars of Orion's belt. Their daily rising immediately precedes another star which shines directly ahead and signals the approach of Sirius: Beta Canis Majoris (of the constellation Canis Major) also known in Arabic as Murzim ("the roarer", announcing Sirius), perhaps an astro-religious inspiration for Gabriel the "Annunciation" angel who tells Mary of Jesus's coming birth in Luke's Gospel. Gabriel is also the "Angel" cited by Muhammed (or his many chroniclers) as that figure who dictated the Koran to him (perhaps deliberately symbolizing a "Second Annunciation"?), reputedly witnessed by the Muslim Prophet in the form of a man sitting cross-legged at the horizon of Heaven.

II

On White Dwarf Accretions and the Red Sirius Anomaly

White dwarf accretions⁶ of Sirius B in its 50 year orbit around companion star Sirius A may have also had a part to play in this ancient celestial story. Sirius B has an old Arabic name, "Al Wazn" which means "The Weight" (apparently because it seemed to rise with difficulty from the horizon, though other southern constellation stars like Canopus were also referred to as "wazn" according to *Hamlet's Mill*). It is an extremely dense and heavy white dwarf with 98% the mass of our own sun and like all white dwarfs it is the end product of a collapsed red giant (a process generally estimated to take around 10,000 years).⁷ Due to atmospheric fallout from its larger partner, Sirius B may at one time have undergone periodic "dwarf nova" outbursts on a semi-regular basis for centuries during its 50 year orbit around Sirius A as it slowly cooled down from its original red giant implosion. Considering that Sirius is but 9 light years from Earth (only Venus, Jupiter and Mercury are brighter in the night sky today), even minor novas exhibiting the roughly

two month long reddish-colored “iron curtain effect”⁸ may have been bright enough (magnified perhaps by micro-lensing as the smaller star passed between Sirius A and the Earth) to be witnessed by observant skywatchers. Indeed such “dwarf nova” outbursts lasting about two months are regularly seen today with binoculars from a star (GK Per) that is 1500 light years away.⁹ Though most astronomers now believe that the “red” Sirius sightings were more likely due to observing the star while it was low in the sky when it would appear red (like a rising sun) due to particles in the earth’s atmosphere, it is conceivable that such a minor nova outburst is also what Gregory of Tours happened to witness and record in 577 A.D. which has become the last known documented mention of a “red” Sirius.¹⁰ Attributions to Sirius “shining like copper” have been unearthed in Babylonian cunieform texts dating back as far as 1000 BC which also tell of Sirius being visible in the daytime sky. Ptolemy called Sirius “reddish” as did Cicero, Horace and other classical authors. Referring specifically to Sirius in the final chapter of his *Metamorphoses* during a descriptive stretch of apocalyptic imagery following Julius Caesar’s assassination (see footnote 1), Ovid writes that a “rust-color blighted the azure morning star”. Just a few years after Ovid’s death in 18 A.D. Seneca the Younger (perhaps drawing on this very same verse of Rome’s reigning lyric poet) wrote in his *Naturales Quaestiones 1.1.7* that the redness of the Dog Star is “piercing while that of Mars is mild”.¹¹ Romans actually sacrificed red-furred puppies to Sirius’s heliacal rising just before dawn during Seneca’s lifetime so Mediterranean popular culture, whether based on accurate astronomical observations or not, had apparently inherited a symbolic association of “bloodletting” at the advent of this star which annually returned to rise with the sun on July 20th of the new Julian calendar.

Today, it is difficult to gauge what these occasional outbursts of Sirian “redness” might have meant to people who held the bright Dog Star in great reverence. Could the more poetically inclined religious scribes have perceived it as a “bleeding out” of heavenly light? Were sacrificial rituals of blood-letting (as with the Romans and their red-furred dogs) intended as mimetic acts of sympathetic magic or forfeitures to the gods? Considering that New Testament emphasis on the “shed blood of Christ” as the source of the “everlasting covenant” (*Hebrews 13:20*) and the “redemption and forgiveness of sins” (*Ephesians 1:7; Colossians 1:14*), perhaps the red wine of Christian communion, still faithfully swallowed in churches today as the sacrament of that eternal covenant, is a ritual colored in part by an esthetic tribute from our ancient skywatching script-doctors to invisible Sirius B whose beating heart periodically bled out the ruby red light of July’s gemstone upon it’s immense blue-white companion.

In the end, should such bleak hypotheses of astronomical origin for some of our most beloved religious texts prove true and grieve us, we can always find solace for ourselves in that mirthful song of Yeats’ *Happy Shepherd*:

*There is no truth saving in thine own heart...
Seek, then, no learning from the starry men,
Who follow with the optic glass the whirling ways of stars that pass*

So cheer up all ye faithful and have yourself a Merry Dog-Star Christmas. Thanks to a

precedent set by Hollywood film maker Preston Sturges in 1941, there is some precedent for tugging on the dog's ear just as Betty Casey did in her taxi full of children's toys and celebrating *Christmas In July* under that bright and morning guidance of man's best friend.

Footnotes:

¹ One can only imagine in retrospect what effect the all-pervading Roman "Emperor Worship" mythos, encouraged in part by the literary works of Vergil and Ovid, may have had on the devoted literate followers of Christ. Following in the footsteps of Vergil's Messianic 4th *Eclogue* (written in the aftermath of Caesar's assassination and prophesizing an imminent Golden Age reign of Saturn when Apollo would rule and the Virgin would return), the final chapter of Ovid's *Metamorphoses* (written before Jesus's purported lifetime) was entitled "The Deification of Caesar". Within this unexpected conclusion to an episodic poem of changing shapes and zoomorphic transformation, Julius Caesar, "the newest star in heaven", "must be made a god to justify his son" Augustus, the present day "Ruler of the World", whose "greatness surpasses" even that of his father. When the goddess Venus cries out to her fellow gods and goddesses at the death of her "priest" Julius (whose body she tries to hide in a cloud), they prophesize such portents of doom to come over the world as dark storm-clouds, blaring trumpets, weeping statues and wailing in the groves: "Firebrands were seen to flash among the stars, the clouds dripped blood, rust-color blighted the azure morning-star, and the moon rode in a blood-red car". Ovid employs a vivid apocalyptic imagery here which bears a striking resemblance to that used in the Gospels by Jesus while describing the End Times and by St. John the Divine in his *Revelation*. It is finally Jove (the Roman Father God) who consoles Venus by telling her that the whole world shall one day be Caesar's to rule until peace and justice arrives for all. "Now, in the meantime (he tells her), from the murdered body raise up the spirit, set the soul of Julius as a new star in Heaven, to watch over our marketplace, our Capitol." Venus complies with Jove's command and releases Caesar's spirit from her bosom which then appears as a comet rising up to Heaven. In the oppressive years to follow when the late Augustus Caesar was proclaimed God and Saviour and Roman soldiers patrolled every street corner in the Middle East, this kind of "emperor worship" propaganda can only have steeled the resolve of early Christian scribes, giving them an added incentive to strongly develop the emerging Gospels rhetorical power and raise "Jesus", whether historical or not, up to an even higher figure than Caesar, re-creating in a very real sense Ovid's "The Story of Aesculapius" (that prescient second to last chapter of *Metamorphoses*) by prosletyzing the "celestial presence" of their Levantine Healer in the Eternal City through such apostles as Peter and Paul where it would eventually be appropriated 300 years later under Constantine and become the official religion of the Holy Roman Empire.

² Near the end of this provocative piece, Robert Bauval recounts the "We 3 Kings of Orient Are" finale from Alvin Boyd Kuhn's *Who Is This King of Glory?* essay which concludes by equating Christ with Sirius. Bauval's article can be found at <http://www.robertbauval.com/articles/article3.html>

³ In the year A.D. 274, when winter solstice fell on December 25, the pagan Roman emperor Aurelian officially proclaimed this date as “Natalis Solis Invicti”, the festival of the birth of the invincible sun or “Sol Invictus”. Eighty years later, Philocalus wrote a Christian martyrology that dated the nativity of Jesus Christ as December 25, 1 A.D., citing an earlier work as backup. Based on the time period of that anonymous work it has been deduced that Christmas was celebrated on the present date as early as A.D. 335 in Rome, but there is no evidence dating earlier than A.D. 335 that Christmas was even celebrated, let alone on December 25. It was officially proclaimed as the birthday of Jesus by church fathers in 440 A.D.

⁴ In an essay explaining the singular importance of Sirius’s heliacal rising to the formation of our modern calendar, Richard Hoagland mentions this July 20th date for Jesus’s time as well, calling it “a repetitive NASA ‘ritual date’” (presumably a reference to both the Apollo 11 moon landing in 1969 and the Viking 1 Mars landing in 1976). Hoagland’s fascinating article can be found here:

<http://www.enterprisemission.com/millenn3.htm>

It is part 3 of a 4 part Millennium piece which makes much strange and conspiratorial ado about Sirius’s political significance at the 1999 New Years’ Eve Millennium celebrations held in Washington and New York City. Part 1 can be found here:

<http://www.enterprisemission.com/millenn.htm>

⁵ Caleb is Hebrew for “dog”. In another canine analogy, Pindar, the 5th century B.C. Greek lyric poet, referred to Sirius as the “shape-shifting dog of the Great Goddess”. The Athenian New Year began with the Dog Star’s heliacal appearance as well whom the Greeks pictured as being two-headed, looking back at the old year and looking forward to the new one.

⁶ For a short 4 page illustration on the evolution of white dwarf stars see this Chandra website: http://chandra.harvard.edu/xray_sources/white_dwarfs.html

Page four of this Chandra series covers the white dwarf accretion process:

http://chandra.harvard.edu/xray_sources/white_dwarfs4.html

There are some very good illustrations on the dwarf nova process here as well:

<http://csep10.phys.utk.edu/astr162/lect/novae/novae.html>

⁷ Schlosser and Bergman have argued against this 10,000 year Red Giant theory with respect to Sirius B in a 1985 *Nature* article. Spectrographic studies of Sirius A reveal a higher than normal metallic content for stars of its type and they postulate that the excess metal may have been deposited on Sirius A when the red giant Sirius B collapsed and exploded. Most astronomers disagree with their foreshortening of the Red Giant implosion process however.

⁸ For a picture of the “iron-curtain” effect as displayed by the huge 1992 Cygnus white dwarf nova look here: <http://www.star.ucl.ac.uk/~apod/apod/ap951227.html>
Here is an excerpt explaining the “iron curtain” effect by the astronomers who coined the phrase, Sumner Starrfield and Steven N. Shore, from a 1995 article formerly posted at the

Scientific American site. This excerpt from that article begins by describing an early stage of the 1992 Cygnus nova (which was visible to the naked eye despite being over 10,000 light years away):

“In a few hours the radiation it emits shifts from being primarily in x-rays to the lower-energy ultraviolet. At the same time, the surface area of the gas increases, making the nova brighter even as it becomes cooler. A spectacular transformation ensues. Initially, the expanding shell consists of a hot, dense gas of electrons and ions--atoms missing one or more electrons. This gas is reasonably transparent. But as it expands, its temperature drops below 10,000 kelvins. The electrons start to recombine with the ions to form atoms that are missing only a few electrons. These atoms have many energy levels and can absorb tens of millions of individual wavelengths of light.

The most important absorbers have atomic numbers around 26, that of iron. The spectrum of light that they can absorb is extremely complex. These ions and atoms block most of the energy being radiated in the ultraviolet, which is where most of the energy is emitted at this phase. When we first studied this phase, with Peter H. Hauschildt, then at Arizona State University, and other collaborators, we called it the iron curtain. The energy absorbed by the curtain is reemitted at longer--optical and infrared--wavelengths. The iron curtain was vividly confirmed by our first observations of V1974 Cygni.”

⁹ Here is an excerpt from a short one page abstract describing the minor dwarf nova accretion outbursts periodically undergone by GK Per:

“GK Per consists of a pair of stars orbiting each other at a separation of 2 million miles once every 2 days. One of the stars is a magnetic white dwarf, it is dead, having burnt all its nuclear fuel it has collapsed down to the size of the earth although it is almost as massive as the sun. The other star is a normal star, but because of its close proximity to the white dwarf gas is pulled from its surface towards the collapsed star. The gas spirals in towards the white dwarf, forming a disk as it does so. The heat given off makes the disk shine brighter than either of the two stars. Cataclysmic variables like GK Per undergo outbursts every now and again. During an outburst, not only does the disk get much brighter, but much more gas is dumped onto the white dwarf. Because this gas falls straight onto the white dwarf at very high speed from this disk, it gets tremendously hot (about 100 million degrees C) and so emits x-rays”

<http://www.star.le.ac.uk/~julo/press.rel>

¹⁰ Bergman and Schlosser reported in their 1985 *Nature* article that though the Frankish Bishop did not know the classical name of Sirius, he recorded the rising times of constellations above the horizon for setting the monastery’s pre-dawn prayer schedules and from this documentation they were able to identify Sirius as the “red” star in question. Professor Whittet of the Rensselaer Polytechnic Institute in his 1999 paper, “A Physical Interpretation of the ‘red Sirius’ Anomaly”, has disputed however that the star was more likely Arcturus rather than Sirius.

¹¹ This Seneca quotation is used by Andy Lloyd to support his theory of a brown dwarf (“Nibiru” or “Planet X”) appearing fiery red near Sirius in 25 A.D. on the perihelion of

it's long solar orbital in his "The Messianic Star Identified" essay at this url:
<http://www.darkstar1.co.uk/ds8.htm>

Considering Seneca's 25 A.D. mention of a "piercing red" Sirius near the dawn of the Christian movement, it may be interesting to note here that Mohammed (570?-632 AD), the founder of the last great monotheistic religion (Islam), lived during the time period when Gregory of Tours reported seeing a "rubeola" (Latin for "red" or "rusty") Sirius in 577. It appears to be the last documented recording of the Dog Star's "redness" though as 400 years later, the Arab astronomer Al Sufi did not list Sirius among the red stars first named by Ptolemy.