

# Did a Supernova cause the Collapse of the Bronze Age Civilizations?

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## Introduction

In the paper "Supernovae – The Force Behind Great Ice Ages" <http://www.BreadAndButterScience.com/IceAgeCometh.pdf>, I provided evidence that a supernova (RX J0852.0-4622) was responsible for the Little Ice Age (beginning ~1315 A.D.) and discussed the possibility that another supernova was responsible for the Dark Ages (beginning ~535 A.D.). In the paper "Did a Supernova cause the Collapse of Civilization in India?" <http://www.BreadAndButterScience.com/IndiaCataclysm.pdf>, I discussed the hypothesis that a very early supernova (2500-3000 B.C.) in the Pleiades produced a civilization collapse in India and the Middle East. In this paper, I will explore the hypothesis that a supernova near the star Antares was responsible for the collapse of a wide swath of Bronze Age civilizations (~1200 B.C.).

Great and powerful nations that controlled the Bronze Age world in some cases for almost two millennia fell within a very short span of fifty-years between 1225 B.C. and 1175 B.C. Civilization collapse overtook the Mycenaean of Greece, the Hittites of Anatolia, the Egyptian New Kingdom, the city-states of coastal Syria and the Levant, the Hurrian kingdom of Mitanni, and the Kassite kingdom of Babylon. These were mighty nations and archeologists have long been puzzled by what force could cause these civilizations to fall simultaneously.

## Evidence of a Supernova

China developed astronomy very early in its history. Over the past century, 160,000 oracle bones/tortoise shells were excavated from fields in An-yang, the capital of the earliest Chinese dynasty, the Shang (商) dynasty. These archeological finds represent the Shang palace archives. Within this repository were 5,000 oracle bones describing the earliest surviving astronomical records on Earth. Analysis of astronomical events described in these oricle bones has been shown to be scientifically accurate. Several of these oracle bones have been carbon dated to the period of 1201 B.C.- 1181 B.C., approximately the time of the collapse of the Bronze Age civilizations. One of the oracle bones in this collection described a supernova event. The inscriptions read, "on the Jisi day, the seventh day of the month, a great new star appeared in the company of the Ho star". The Chinese "Ho" star is Antares.

Antares is a spectral class M, giant binary star, near the center of a blue cluster of stars making up the constellation Scorpius. It has sometimes been referred to as "the Heart of the Scorpion". The star is located 520 light years from Earth. The Chinese named Antares - *Huo Shing*, meaning "the Fire Star." The ancient people of Asia called Antares, evil, "the Grave Digger of Caravans." The Mayans of Central America named the constellation Scorpius "the Sign of the Death-god." The Romans called Scorpius "the Lurking One."

The Roentgen Satellite, ROSAT, was a powerful satellite containing a position sensitive proportional counter detector. This instrument enabled the satellite to perform the first X-ray and XUV all-sky surveys using an imaging telescope with extremely accurate X-ray sensitivity. The satellite data provided a wealth of new findings. One of these findings was the detection of a supernova remnant (SNR) RX J1714-3939 within Scorpius constellation, near the star Antares.<sup>1</sup> The x-ray source of the SNR observed by ROSAT was located at right ascension 17h 14m, declination  $-39^{\circ} 38'$ . This is considered to be a young remnant, because the X-ray spectrum indicates a high temperature. From the images of blast wave correlated to the initial energy typical of a supernova, the age of this supernova event has been roughly estimated as 3000-5000 years old,

which is in agreement with the Chinese record, which indicates a supernova about 3,200 years ago. This is the first supernova recorded by human astronomers and identified using modern instrumentation.

## **Supernova Effects**

My research has led me to conclude that particle radiation from nearby supernovae can affect civilization in the following manner:

Direct exposure to the initial burst of very high-energy nuclear particle at the front end of a supernova event produces the following effects:

- \* *The direct unobstructed burst instantly kills a few individuals outright.*
- \* *Many individuals suffer varying degrees of permanent brain damage with delayed cognitive impairment including memory loss, personality changes, and dementia.*
- \* *Some individuals suffer genetic mutation and cancer (primarily leukemia.)*
- \* *Acute bone marrow damage in some individuals will produce death within a week.*

The indirect effects from supernova nuclear radiation can last for years/decades and affect the entire globe. These effects include:

- \* *A decline in global temperatures.*
- \* *Very abnormal weather patterns producing great storms and floods in some regions and great droughts in others.*
- \* *Intolerable weather cause massive crop failures, which in turn produce great famines.*
- \* *Plagues in both animals and human.*
- \* *Large environmentally forced migration of people.*

Dementia is linked to madness, insanity, and a marked decline from the individual's former intellectual level and often is coupled with emotional apathy. Dementia in its mild stage produces dysfunctions in memory, attention and abstract reasoning. It also produces mild language impairments. Dementia in the moderate stage produces a variety of language disorders (the loss of the ability to use words as symbols of ideas, the inability to speak fluently, selecting the wrong words or bizarre word combinations). In a severe state of dementia, speech becomes non-fluent, repetitive and largely non-communicative, auditory comprehension becomes very limited and many individuals become mute.

The supernova with a declination of  $-39$  degrees would affect many regions of the world through direct exposure of nuclear particle radiation. Only areas in the high latitudes of the Northern Hemisphere would completely escape the threat from direct particle radiation; places like the Scandinavian countries, Iceland, Greenland, Russia, Alaska and Canada.

The effect of direct nuclear particle radiation (memory loss, apathy, varying degrees of dementia) across a wide swath of peoples (the most advanced and powerful Bronze age civilizations in the world at that time) created a power vacuum that allowed unaffected tribes from the North to migrate south and easily seize and conquer many lands (hollow shells of former great nations). Declining global temperatures and a decade of harsh weather would almost force these Northern tribes to take this course of action to sustain their very survival.

## **Civilization Collapse**

Archeologist findings have identified a catastrophic collapse of civilization that overtook the Mycenaean of Greece, the Hittites of Anatolia, the Egyptian New Kingdom, the city states of coastal Syria and the Levant, the Hurrian kingdom of Mitanni, and the Kassite kingdom of Babylon bringing to an end these Bronze Age civilizations quite suddenly. This collapse was observable in:

**Cities:** Many great palaces and cities were destroyed or abandoned. Archeologist unearthed over 50 cities in the Eastern Mediterranean region, and found that all were destroyed within the fifty-year period. There is evidence of a massive depopulation. The Mycenaean population in Greece declined ~75 percent.<sup>2</sup> There was a major population decline on the island of Crete.<sup>2,3</sup> The cities that survived dramatically shrank in size. The Mycenaean returned to a nomadic life of small tribal groups. Life became fairly sedentary, non-urbanized, and agricultural. Multi-room common family dwellings, which was the norm in Crete, was replaced with single-room structures. This type of housing did not return to Europe until 2,800 years later. Indoor plumbing common in Crete disappeared and became forgotten.

**Migration:** Mass migrations that dispersed the population among places previously sparsely populated. People were driven from the cities out into the countryside.

**Government:** In the Mycenaean civilization, all state institutions collapse.

**Trade:** Archaeologists observed that international trade was suddenly cut off. Large commercial network were abandoned. Commerce had flowed over extensive trade routes that crisscrossed both land and sea. A late-14th-century B.C. ship excavated off the Uluburun promontory in southern Turkey, for example, carried cargo from Cyprus, Canaan, Egypt, Anatolia and Mycenaean Greece.<sup>4</sup> Not only was international trade abandoned but even trade between nearby communities ceased.

**Arts:** Artistic pursuits were abandoned. Bronze Age civilizations produced very unique, elaborate and beautiful artwork. This was replaced with simple geometrical designs and patterns. All the great craftsmen of the Mycenaean cities faded away.

**Infrastructure:** The system of roads, bridges, and dams were not maintained and decayed.

This pattern was recorded in India a thousand years earlier with the effects attributed to a nearby supernova in the Pleiades.<sup>5</sup> The supernova had the brightness of the sun with a huge metallic glow and lightning. When the supernova produced thunderclaps, individuals mysteriously fell to the ground dead. And then over the next several years:

**Assemblies (of people) dissolved, and scholarly studies, sacrifices and celebrations were withdrawn. Agriculture, dairy, and commerce were given up. Empty cities and burnt down villages filled with the cries of goblins, became collecting places of bones.**

**Language:** The written Mycenaean language "Linear B" script abruptly ceased and disappeared. Without writing, the Mycenaean left behind no history following the collapse of their civilization. Instead we have only five centuries of mystery - the Greek Dark Ages.

The first pillar of civilization is its spoken language. Homer lists among the people living on Crete a group called "Eteo-Cretans,". The language they spoke was a non-Hellenic language not closely related to Greek. Eteo-Cretan, is believed to be the near relative of the language of the Minoans. The Greeks referred to Eteo-Cretan language as "barbaric," from the word "barbar," which means, "speaking nonsense" ("**bar bar bar bar**"). The Eteo-Cretans, then, originators of Greek civilization itself, had become the barbarians of the Greek world. (In a severe state of dementia, speech becomes non-fluent, repetitive and largely non-communicative)

**Global Cooling:** Glacier expansion is caused by increased precipitation combined with falling seasonal temperatures. Glacier advances occurred in Iceland during the period 1,200-1,000 B.C. based on radiocarbon dating and tephrochronology.<sup>6</sup>

**Abnormal Weather Patterns:** Irish oak tree rings showed evidence of an environmental disaster beginning around the year 1159 B.C. lasting ~18 years.<sup>7</sup> A series of narrow rings on a log from Gordion, in Anatolia, indicates a period of very dry weather around 1200 B.C.<sup>8</sup> Studies of the Nile, Tigris and Euphrates rivers indicate that they were at very low levels during the 12th century B.C.<sup>9</sup>

**Famine:** Soaring prices for grain was observed in Egypt and Mesopotamia and in the Hittite Empire.<sup>10</sup> Not long before the destruction of Canaanite Ugarit around 1185 B.C., the city's king received three letters mentioning famine in the Hittite Empire. One demanded that Ugarit furnish a ship to transport 2,000 measures of grain to Cilicia, in southern Anatolia. It was a matter of life or death!<sup>11</sup>  
<sup>12</sup> In Egypt, from the time of Ramesses III through that of Ramesses VII, the price of an emmer of wheat in Egypt gradually rose to eight (and for awhile 24) times its earlier price. Mesopotamia also suffered from severe food shortages. During the mid-tenth century B.C. the price of barley in Babylon rose 150 times its earlier price.<sup>13</sup> An Assyrian chronicle records a famine so severe that people ate one another's flesh.<sup>13</sup>

## Historical Literature

The collapse of these Bronze Age civilizations coincides with the Trojan War (~1185 B.C.). Very little knowledge of the force that destroyed these civilizations exists because written language also became a casualty. For almost two thousand years, the Mycenaean were lost to history except for their central position in Greek literature and mythology. For the Mycenaean age found its voice in the poetry of Homer in a single defining event: the Mycenaean war against Troy, a city in Asia Minor. Homer recorded ten epic poems about the Trojan War, of which only two survived. These epics are *the Iliad* and *the Odyssey*.

For thousands of years these two epics were viewed solely as elaborate fables. That was until 1873 when Heinrich Schliemann, an amateur German archeologist, unearth the city of Troy in Asia Minor and later the Mycenaean cities of Mycenae and Tiryns. He was driven by his belief that these two epics were more than mere fables and devoted his entire life to proving it. I am going to push the envelop a little further by suggesting that the events described in these two epics were based on factual first-hand accounts.

*The Iliad* is a story of love and a story of war, but mostly a story of war. The story is rather straightforward. The Mycenaean King Agamemnon took an immense army in 1,000 ships across the Aegean Sea to the city of Troy and waged a 10-year war. This battle became know as the Trojan War. *The Odyssey* on the other hand is a tale of *wild-eyed imaginings* about soldiers returning home after this long war. In particular, it is about a great hero from the war, Odysseus, and his small army. All of his soldiers perished on the journey home. The sole survivor, Odysseus, spent 10-years finding his way back.

It is my belief that the epic poem *the Odyssey*<sup>14</sup> provides a detailed glimpse into the beginning of the collapse of these once great Bronze Age civilizations and clues to its cause. The symptoms described in individuals within this epic are consistent with the effects expected from exposure to a burst of high-energy nuclear particles.

Lord Nester describes his journey home from Troy “Now Menelaos and I sailed home together on friendly terms from Troy, but when we came off Sunion Point in Attika, the ships still running free, Onetor’s son, Phrontis, the steersman of Menelaos ship, fell over with a death grip on the tiller: some unseen arrow from Apollo hit him.” Chronologically, this was the first indication that an event has occurred. (The Odyssey, Book 3, Lines 294-300) (*The direct unobstructed burst instantly kills a few individuals outright*)

For Lord Odysseus one of the first chronological indications of abnormality was when he became lost at sea, arriving so far off course on the other side of the Mediterranean Sea in North Africa in the of Lotos Eaters. A map of his journey. <http://mockingbird.creighton.edu/english/fajardo/teaching/eng120/odyjour.htm>  
Odysseus and his men were not only experienced soldiers but also seasoned sailors. Their continued

inability to find their way home was in part a result of their loss of navigational skills. (*loss of abstract reasoning*)

In the land of the Lotos Eaters, Odysseus sent 3 men to scout the land. “They fell in soon enough with Lotos Eaters, who showed no will to do us harm, only offering the sweet Lotos to our friends – but those who ate this honeyed plant, the Lotos, never cared to report, nor to return; they longed to stay forever, browsing on that native bloom, forgetful of their homeland.” (The Odyssey, 9, 95-101) (*memory loss, attention deficiency, apathy*)

The next isle they landed on contained a race of giants each with only one center eye called *Kyklopes*. Odysseus entered one of the caves and waited to meet one of the beings. “A prodigious man slept in the cave alone, and took his flocks to gaze afield – remote from all companions, knowing none but savage ways, a brute so huge, he seemed no man at all of those who eat good wheaten bread; but he seemed rather a shaggy mountain reared in solitude.” When the *Kyklopes* returned to his cave, he “swung high overhead a slab of solid rock to close the cave. Two dozen four-wheeled wagons, with heaving wagon teams, could not have stirred the tonnage of that rock from where he wedged it over the doorsill.” After a short conversation with the *Kyklopes*, “in one stride he clutched at my companions and caught two in his hands like squirming puppies to beat their brains out, spattering the floor. Then he dismembered them and made his meal, gaping and crunching like a mountain lion – everything innards, flesh and marrow bones.” (The Odyssey, 9, 195-201, 251-256, 301-306) (*delusions, dementia*)

After Odysseus and his men escaped, they made their way to *Aiolia* Island. *Aiolos*, warden of the winds took “a bull’s hide sewn from neck to tail into a might bag, bottling storm winds”. He lashed the bag to the ship to provide Odysseus with a wind for his sails to carry him home. (The Odyssey, 10, 21-22) (*delusions, dementia*)

Their next stop was *Laistrygon* where they encountered a tribe of man-eating giants. Then it was onto the island of *Aiaia* where an enchantress turned his men into swine. (*delusions, dementia*)

Odysseus and his men spent a year on *Aiaia*. “So day by day we lingered, feasting long on roasts and wine, until a year grew fat. But when the passing months and wheeling seasons brought the long summery days, the pause of summer, my shipmates one day summoned me and said: ‘Captain, shake off this trance, and think of home’” (The Odyssey, 10, 504-509) (*memory loss, apathy*)

Odysseus and his men traveled to the dark underworld to consult with the dead. Next they journeyed past sirens whose sweet song bewitched men and took their minds away. Then they encountered *Skylla*, a six-headed monster, and *Kharybdis*, a fierce whirlpool. All his men perished in a storm and Odysseus washed up on the shore of the Island of *Ogygia*, home to the beautiful sea nymph *Kalypso*. He stayed with her for 8 years and they were lovers. (*delusions, dementia*)

To whom was this story told? Was it the Mycenaean who knew the Mediterranean Sea like the back of their hand! Or was it to a tribe of landlocked people in the North who had little knowledge of the sea, perhaps a tribe that would one day populate the area and be known as Greeks. To this tribe, the wild imaginings would be real and describe the unknown world beyond their borders.

While Odysseus was in the underworld he spoke to the dead prince of Thebes, *Teiresias*, who foretold his future. “Though you survive alone, bereft of all companions, lost for years under strange sail shall you come home, to find your own house filled with trouble; insolent men eating your livestock as they court your lady. Aye, you shall make those men atone in blood! But after you have dealt out death – in open combat or by stealth – to all the suitors, go overland on foot, and take an oar, until one day you come where men have lived with meat unsalted, never known the sea, nor seen seagoing ships, with crimson bows and oars that fledge light hulls for dipping flight. The spot will soon be plain to you, and I can tell you how. Some passerby will say, ‘What winnowing fan is that upon your shoulder?’ Halt and implant your smooth oar in the turf and make fair sacrifice to Lord Poseidon – a ram, a bull, a great buck boar – turn back, and carry out pure hekatombs at home to all wide heaven’s lords, the undying gods, to each in order. Then a seaborne

death soft as this hand of mist will come upon you when you are wearied out with rich old age, your countryfolk in blessed peace around you. And all this shall be just as I foretell.” (The Odyssey, 11, 121-146)

## References

1. Gerhard Börner, Li Qibin and Bernd Aschenbach [2003] *Some Possible Identifications of ROSAT Sources with Historical SN Events* ESO Astrophysics Symposia, **vol. 6**.
2. V.R. d'A. Desborough [1975] *The End of the Mycenaean Civilization and the Dark Age: (a) The Archaeological Background*, The Cambridge Ancient History, **vol. II, part 2** (Cambridge, UK: Cambridge Univ. Press).
3. R.W. Hutchinson [1962] *Prehistoric Crete* (Baltimore: Penguin Books)
4. William H. Stiebing, Jr. [2001] *When Civilization Collapsed: Death Of The Bronze Age*, Archaeology Odyssey, Sept./Oct. 2001
5. Professor R. N. Iyengar [2004] *Profile of a Natural Disaster in Ancient Sanskrit Literature*, India Journal of History of Science, **39/1**, p. 11-49.
6. J. Stotter, M. Wastl, C. Caseldine, T. Haberle [1999] *Holocene Palaeoclimatic Reconstruction in Northern Iceland: Approaches and Results*, Quaternary Science Reviews **18**, p. 457-474.
7. Mike G.L. Baillie [1997] *Tree-Ring Evidence for Environmental Disasters During the Bronze Age: Causes and Effects*, SIS Conference at Cambridge. 11th-13th July 1997.
8. Gordion, P.I. Kuniholm [1974] *Dendrochronology at Gordion and on the Anatolian Plateau*, 76th General Meeting, Archaeological Institute of America.
9. P.A. Kay and D.L. Johnson [1981] *Estimation of Tigris-Euphrates Streamflow from Regional Paleoenvironmental Proxy Data*, Climatic Change **3**, p. 251-263.
10. Karl W. Butzer [1976] *Early Hydraulic Civilization in Egypt*, p. 30-33 (Chicago: Univ. of Chicago Press).
11. Michael C. Astour [1965] *New Evidence on the Last Days of Ugarit*, American Journal of Archaeology **69**, p. 255.
12. Harry A. Hoffner [1992] *The Last Days of Khattusha* in William A. Ward and Martha S. Joukowsky, *The Crisis Years: The 12th Century B.C.: From the Danube to the Tigris* (Dubuque: Kendall/Hunt), p. 49.
13. J. Neumann, Simo Parpola [1987] *Climatic Change and the Eleventh-Tenth-Century Eclipse of Assyria and Babylonia*, Journal of Near Eastern Studies **46:3** (July 1987), p. 178.
14. Homer, *The Odyssey*, (Franklin Center – Pennsylvania, The Franklin Library, 1978).

No, it's a supernova drawn 6,000 years ago, say scientist...s"...or, "Did a Supernova cause the Collapse of the Bronze Age Civilizations: [https://www.facebook.com/â€¦/1299444976â€¦/â€¦] We hope all members and followers of the AIAS are well, and managing to cope with the difficult times that we find ourselves in. While there won't be any new archaeological finds to report on for a while, in these days of social distancing and self-isolation, there are still plenty of interesting archaeological resources out there to enjoy from the safety of your own home.Â To start with - here's an online lecture by the fabulous Eric Cline, courtesy of the Oriental Institute of Chicago. Just to remind you that, however dark things look now, there are far worse times behind us. The decline of the Late Bronze Age civilizations of the Mediterranean and Near East has puzzled historians and archaeologists for centuries. While many have ascribed the collapse of several civilizations to the enigmatic Sea Peoples, Professor Eric H. Cline, former Chair of the Department of Classical and Near Eastern Languages and Civilizations at George Washington University, presents a more complicated and nuanced scenario in his new book, 1177 BC: The Year Civilization Collapsed.Â How important then is the date 1177 BC in our understanding of the Bronze Ageâ€™s termination? Why did you select this date as the title of your book? The mystery of the collapse of Late Bronze Age civilization bedevils archaeologists. One, Eric Cline, is positive: The devastation wasn't due to a single cataclysm, but to a harmony of events â€” and it could happen again.Â The Late Bronze Age collapse of societies throughout the Levant, the Near East and the Mediterranean some 3,200 years ago has been a mystery. Powerful, advanced civilizations disappeared, seemingly overnight.Â It slid into a decline â€” and so did its neighbors. This collapse was apparently very sudden: a line of advanced and powerful cultures collapsed like a row of dominoes, says Eric Cline, professor of classics and anthropology and Director of the Capitol Archaeological Institute at George Washington University. Archaeology of the Late Bronze Age CollapseThe collapse of Palatial Civilization at the end of the Bronze Age (1315e1190 BCE) occurred in different places at different times over the course of two centuries. Many of these destructions have been attributed to human-causes. Large population migrations took place, most famously with the incursions of the 'Sea Peoples' into the Nile Delta and the Levant (Sandars, 1987).Â Whatever the cause of some or all site destructions, the broader question is why these centers were not rebuilt and reoccupied following catastrophic events. Occupants in Crete withstood both the Santorini eruption around 1620 BCE (Manning, 2010) and external invasion around 1460 BCE (Hallager, 2010), yet major Palatial centers were quickly rebuilt and reoccupied. The Late Bronze Age Collapse, often alternately referred to as the Mycenaean Palatial Civilization Collapse, was a period of time, roughly between the years.Â During whatâ€™s considered to be the first phase of the collapse (actual collapses of civilizations tend to occur in start-stop stair-step fashion â€” with periods of extreme crises, followed by stabilization, followed by crises, onwards down the staircaseâ€¦) saw more or less every city between Pylos and Gaza violently destroyed.