

**GODS IN HEAVEN, HAVOC ON EARTH.  
ANCIENT GREEK AND SANSKRIT PARALLELS  
OF COMET / METEOR GODS**

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**Abstract**

Hephaistos belongs to the guardian-gods or 'creators' of the Universe and functions as a pivotal force among the 'proto-hellenic' deities. The three-part paper, presented by the author in 2006, and expanded in 2010, focused, firstly, on the strong relationship between Hephaistos, as a comet/meteor god and the Pelasgian substratum of circum-Mediterranean region. In fact, a great deal of information acquired from the Greek Epic of Iliad seems to refer to the extended catastrophe of the beginning of 2nd millennium B.C. A coherent presentation of geoarchaeological, archaeoastronomical, archaeological and philological data, has shown that Hephaistos may function as a symbolic archetype of past impact events, being one of the pivotal figures within the gnostical system of the Pelasgians during the 3rd and 2nd millennia B.C. Moreover, Phaethon's ride, the famous falls of Troy and the 12th cent. catastrophes formed various mythological 'layers' of information within the palimpsest of archaeoastronomical circum-Mediterranean knowledge.

Furthermore, a different analysis and interpretation of disaster myths assessed the contemporary and future trends concerning the interrelations between astrobiological phenomena (comets, impacts, plasma emissions, Super Novae explosions, solar cycles, Venus transits as biohazards) and past epidemics (Justinian plague, the Black Death, the AD 1918 flu pandemic spread, other more recent cases), and provided new evidence through famous circum-Mediterranean 'myths' (Venus as a comet, Apollo's wrath in Homeric Iliad, Tantalides / Niobe, Deucalion's flood, the Ten Plagues of Egypt, the Late Bronze Age Pestilence that destroyed mighty empires). So, the dual role of comets & asteroids as bringers of destruction, as well as bringers of building blocks of life or even life, has been highlighted.

Especially, inspired researchers such as Immanuel Velikovsky, Alfred de Grazia & Paul La Violette have already pointed out the interrelation of similar past events with the formation of myths in ancient societies. A cometary or planetary near-encounter results in falling of gases, hydrocarbons, burning pitch & stones. Such events are unknown to modern experience but are indicated by ancient legends from many places worldwide and by various geological & biological phenomena detected via geoarchaeological and bioarchaeological studies.

First, the author in 2005, highlighted the importance of some Sanskrit data for the elaboration of a framework for the Bronze Age disaster astromyths. Sanskrit literature of ancient and medieval India is rich in information about environmental sciences. (Iyengar, 2004). Apart from Puranas, Mahabharata and Ramayana, the Vedas are four in number -- the Rig, Sama, Yajur and Atharva. Each Veda itself is composed of parts. The layers of text reflect the chronology of composition, with the Samhita being the most ancient part and the Upanishads the most recent. It is agreed among scholars that the Rigveda Samhita (RV for brevity) is by far the oldest part of

the Vedas. The RV contains 1028 suktas (hymns) with a total of 10552 mantras (verses) arranged in 10 Mandalas or books.

Ancient Vedic people, as all ancestors living under turbulent skies, appear to have been preoccupied with cosmic fires (meteoritic swarms and comets), as early as the regular ritualistic observation of the sky, that gradually led to calendar's elaboration and later to the knowledge of the planets (Iyengar, 2010). In RV there are a group of hymns which refer to meteoritic showers, celestial fires and at least a few comets with names "*I beheld the guardian, the never resting, wandering on paths hither and thither, 'for he indeed wanders hither and thither on divine paths,' arraying himself in the gathering and the radiating, he moveth to and fro within the spheres. 'for again and again he wanders moving within these worlds'*". Rig-Veda 1.164.31 SB (Shatapath Brahman) 14.1.4.10. The interconnections will shock us, all.

## **Keywords**

ancient Greek texts, comets Archaeoastronomy, Astromythology, Disaster Mythology, Hephaistos, Geomythology, Indra, meteor swarms, Phaethon, Sanskrit literature

### **1. Introduction**

Disaster Mythology (term specified by the author in 2005, as a interdisciplinary sub-field of Disaster Archaeology) seems to use a universal unconscious language, which presents some specific rules: a) collectively experienced events with tragic consequences make myths via a mechanism of symptomatic relief, b) the historical character of the myth demands a cryptographic detection many generations after the initial event, c) perhaps both the myth-teller and myth-hearer want the truth to remain concealed, d) this concealment may reinforce symptomatic relief from the dreadful event and e) the duration of pain after the event (for many generations ahead) interrelates with the therapeutic mechanism (de Grazia, 1984b).

Dreams and myths bury the most intense memories under the conscious mind by suppressing and controlling anxiety. Various cultural personalities are characterized by different archetypes and phenotypes. That's why we encounter several identical kernels in the expression of the catastrophic events (e.g. the symbols of comets) along with many different stories about them. The use of common symbols make the social system operating correctly. The heroes and the gods are known by many epithets that describe their traits. And.. "the gods in Homer are great gods, because one thunderstorm does not make a great god, nor does one volcano..". Human tragedies in the past gave birth to great myths (de Grazia, 1984b). Let us follow the path of Hephaistos.

The Neoplatonists (a revival of Platonism, occurring in the 3rd cent. A.C.) accepted the Twelve Gods as a legacy from Plato. Generally speaking, Vesta represents Earth, Neptune Water, Juno Air, and Vulcan Fire. So, Jupiter, Neptune and Vulcan belongs to the Creators of the universe, Vesta, Minerva and Mars to the Guards, Ceres, Juno and Diana to the Life-givers and Mercury, Venus and Apollo to the Uplifters. The creative and paternal gods make the universe, the life-givers give it life, uplifters harmonize it, and the guards preserve and protect it (Gillman, 1996-7).

Especially, Hephaistos or Hephaestus, the god of volcanic and thermal activity, of wild and destructive fires, the patron of smiths and metalworkers, builders, architects; stonemasons, carpenters and wood-workers, seems to represent not only the earthen / subterranean fires but this of extra-terrestrial origin, ever awful and uncontrollable. Divine smiths are peacemakers, too, for they are connected with celestial and subterranean fields, by acting as mediators between them.

But, there is a -till recently neglected- agent which could destroy civilization and cause earthly turbulence, the exo-terrestrial encounters. Astronomical evidence indicates that our ancestors viewed a much more active sky than we do. Particularly during the past twelve thousand years, such deliveries were not uncommon. Much evidence suggests that humanity witnessed, and was affected by, the break-up of a very large comet over this time period. Along with the two luminaries, the solar deities (e.g. Apollo, Hercules, Helios) and the moon goddesses (Aphrodite Ourania : Hecate - Hera - Artemis) which represented the female reproductive force, there was another sacred fire represented by cosmic 'invaders' (e.g. Typhoon, Hephaistos, Phaethon) or other phenomena (e.g. Sirius, Saturn, Jupiter).

In summary, the strong parallelisms of symbols, words, images and allegories in the worldwide knowledge indicate that the 'Greek' Hephaistos was derived from the Pelasgian religious circum-Mediterranean substratum, reflecting some major celestial events dated back to the beginning of 2nd millennium B.C. The Homeric Epics are a palimpsest of archaeoenvironmental knowledge, as they are built on layers of information.

Florence and Kenneth Wood, Alfred de Grazia and NASA first alleged that Vulcan may be connected to meteoritic phenomena. The present paper focuses on the argumentation of this statement by comparing data from the Sanskrit writers, the worldwide iconography and the geoarchaeological, palaeoclimatic and archaeoastronomical evidence. Furthermore, the paper deals with the spatial and temporal itinerary of impact myth's elaboration. The psychological filtration is also taken under consideration when comes to matters of disaster dealing within the socio-cultural framework of ancient societies.

To conclude, Disaster Archaeology finds a very powerful ally in the name of Disaster Mythology, which echoes real occurrences through various myths. The Homeric figure of Hephaistos as a meteor/comet god and his puzzling mythical motif, in comparison to its Sanskrit parallels, holds a prominent role in it.

## **2. Comet / meteor divine presence on Earth**

### *2.1. The Homeric Hephaistos and its off springs, the space-induced disasters in Bronze Age Eastern Mediterranean and the Indian destructions at the same latitudes*

#### *2.1.1. The fall on Earth*

Crippled at birth, Hephaistos was thrown from Olympus (heaven) by Hera who was ashamed of his deformity (Homer Iliad, XVIII.136; Quintus Smyrnaeus Fall of Troy, 2.549). Another version of Greek myths wants him to be casting from heaven by Zeus himself, when the former tried to help Hera. Then the 'cosmic invader' passed the 'magic threshold' (? the atmosphere of our planet), travelling 'all day long' before landing in Lemnos 'about sunset'. In fact, 'there was not much life left in him', as he was crippled in both legs (Homer Iliad, I.568 ff & 620; Apollodorus Library, 1.3.5).. But most sources claim that Hephaistus landed in the sea near

Lemnos, and was washed up on the shore, where he lay broken until rescued by the Nereids. Thetis and Eurynome (Iliad, XVIII.136 & 423- 432; Homeric Hymn 3 to Pythian Apollo, 310; Apollodorus, 1.3.11 ff.; Pausanias, 8.41.5). Secretly Hephaestus lived with these goddesses in their underwater caves for nine years. He lived in their "mykhos", a Greek word meaning both innermost place and the women's apartments of a house. This nine year hibernation holds a very strong symbolism reflecting a second womblike incubation that awoke his own creative energy. We must be very careful, though, because the word Eurynome was also used as an epithet of Artemis (Pausanias, 8.41.5)!

First, the author in 2005, highlighted the importance of some Sanskrit data for the elaboration of a framework for the Bronze Age disaster astromyths. Sanskrit literature of ancient and medieval India is rich in information about environmental sciences. (Iyengar, 2004). There are several different versions of the same celestial event in Mahabharata, describing the inversion of dual phenomena (the summer became winter and winter became summer) as a war broken between gods and demons. Fiery celestial body fallen on Earth, earthquakes, rise of sea-level, draught of rivers, lakes and wells, destruction from Heaven, severe famine are some of the implications related to the Pleiades (a demon has born in the Pleiades). These disasters should have taken place in the NW part of India (23.5° N, 71.5° E), where river Sarasvati joined the sea (Law 1982; Mc Crindle 2000; Valdiya 2002; Schoff internet edition). The whole plain, now an arid area known as the Thar Desert, was once a very fertile plain traversed by this great river. In those days of Mohenjo-Daro and Harappa, the area was one of the richest places in the world.

A first statement on the dating for these celestial phenomena would declare the attempt impossible. Nevertheless, some details of the texts have provided the modern scientists with methodological tools. Renowned scholars, planetarium softwares and astronomical calculations date the observation of nova to c. 2500 - 3000 BC or even earlier. During that time in the geographical coordinates of India, Pleiades were exactly at the vernal equinoctial point on their heliacal rising. The impact crater and the falling meteors could have occurred in 1800 - 2200 B.C.

(Dikshit 1969; Narahari Achar 2000; Iyengar 2004). Thus, archaeological investigations in the above-mentioned areas would provide new information on this interesting scientific issue.

More specifically, the Prabhasa-ksetra-mahatmya book (PK) of the Skandapurana contains references to similar phenomena focused on the area of Sarasvati River., mentioning a smoky demon and heavenly objects that made holes in the ground. In one episode, the Sarasvati River, carrying fire, enters the Ocean, as well as the level of the sea rose and dropped due to devastating tsunamis. Professor Iyengar (2004) pointed out the verses indicating that a metallic object eventually landed on Earth, and thus, describing the descent of the goddess (see also R. Juhl, Parallels between the Celestial and Terrestrial Phenomena at Enoshima and Similar Phenomena Associated with the Sarasvati River of Ancient India, available online at

<http://homepage.mac.com/bartraj2/EnoshimaPt-3/ParallelsWSarasvatiR.html>).

Evenmore, the hymns of *RV* seem to function as palimpsest, like the Homeric Epics, as they both can be interpreted in several different ways. The word *dhûmaketu* and *vibhâvasu* (which in one place in the *RV* is said to be like a big rock) could possibly describe some transient celestial object, and the well known Vedic deities (initially interpreted as thunderstorm and wind gods), the *maruts*, through their physical actions, could be meteoritic showers or storms. The *Atharvan.a Veda* has a famous hymn in which *dhûmaketu* is mentioned along with Sun, Moon and Râhu (the eclipse

causer). In addition, *Kaúúika Sûtra* of the *Atharvan.a Veda* mentions the event of the Seven Sages (Ursa Major) veiled by *dhûmaketu*, which could have meant a comet (Iyengar, 2010).

### 2.1.2 *Hephaistos, Aphrodite and Mars: a celestial erotic triange*

In the *Odyssey*, the blind bard Demodocus amuses King Alcinoos' court by singing the tale of Aphrodite making a cuckold of her husband. The master craftsman who achieves perfection in his artifacts and mechanical inventions completely misses the mark when it comes to flesh and blood relationships. When Helios tells Hephaestus of Aphrodite's and Ares' coupling (viii.269), the jealous husband devises a trap to capture them and display them in the act of lovemaking. He entangles them in an invisible net, and then exposes them to the laughter of the gods. That these stories are rooted in comet (and other 'impact' phenomena) lore is more than evident.

A count of Ares / planet Mars in Greek literature produced 110 archetypes and nicknames (de Grazia, 2005). The Vedas speak of over 100 close encounters of Earth and Mars before the later was brusquely despatched upon its present planetary course by planet-Venus (de Grazia, 2005 & 1984b). Velikovsky, de Grazia and Ackerman (1996/9 a & b) proposed a rather intriguing scenario, that explain several ancient otherwise incomprehensible myths. Proto-planet Venus (symbolized by goddess Athena), expelled from Jupiter (born out of Zeus' head), propel Mars toward Earth (ancient legends of Mars' wounds, swelling, e.t.c.). But in the verses of Nonnos (*Dionysiaca*, 29.376) Ares seems to be willing to fight against Zeus, Phaethon, Hephaistos and Athena (comets, meteoric showers and other impact phenomena!), in order to set his beloved Aphrodite free!



Brown spots mark impact sites of the Shoemaker-Levy Comet on Jupiter's S. Hemisphere.

[Image source](#)

Aside from these theories, derived from Astrophysics and testimony from ancient civilizations (i.e. Babylonian, Chinese, Hebrew, Greek, Hindu, Roman, Mesoamerican), Patten and some other scholars suggest that planet Mars was once struck by a body the size of Pluto, that propelled him into an orbit periodically threatening Earth. Centuries later, the wayward planet Venus nudged him into a new orbit. During that dreadful event, Mars would take up 69% more on the sky than did the moon and would reflect 69+ times greater than the moon. Oceanic and magmatic (sub-crustal) tides would be 5.900 times the normal lunar times. In fact he interprets Hesiod's poem *The Shield of Hercules* (*The Disc of Ares*) as an allegory of that approach (Patten & Winsdor, 1996).

In Homeric Epics, in the scene narrated by Demodocus, the Sun, without taking part, attracts the attention of Hephaistos, who, in this case may be the alter ego of Athena

or the huge item that stroke Mars. Poseidon applying to Hephaistos for mercy, symbolizes the Earth which suffers from the above-mentioned encounters. Athena stands for the planet Venus, the wandering of which is personified in her human mirror- image Odysseus (de Grazia, 1984b; Velikovskiy, 1955 & 1950) and Aphrodite Ourania / Helen for the moon (Graves, 1969; Jines, 1958) ..

### *2.1.3 Hephaistos and Athena: a celestial dual archetype of an androgynous nature*

Hesiod, as well as Roman sources, claims that Hera gave birth to Hephaistos parthenogenically, without Zeus' participation, since she was angry at him for birthing Athena from his own head without first procreating with her. Thus, Hesiod in Theogony ( 924-929) highlights the analogy between Athena and Hephaistos (Apollodorus, 1.19; Cicero, 3.22). Plato in Critias (109B-D) declares that Hephaistos and Athena are of the same father, they are of the same nature (Graves, 1969). The Roman equivalent of Athena (Minerva) was Hephaistos (Vulcan). The sequence of the Twelve Gods appears in the Rustic Calendar, in Manilius and at the Altar at Gabii. Aries and Libra had Athena-Minerva and Hephaistos-Vulcan as their guardian gods. Aries symbolizes the head from which Athena sprang. At this point we should emphasize that the double symbolization of Hera - the moon goddess and Athena as planet Jupiter was the kernel of one Homeric archaeoastronomical substratum. This aspect explains the names of the planets in the planetary conjunction of 1953 B.C. and a periodical phenomenon with ten years interval (Iliad II, 156; IV, 8; V, 418; VIII, 418 - 419), when the moon and planet Jupiter, in their major luminescence, conjunct in a specific zodiacal asterism (Wood, 1991). The other substratum seemed to represent the fire spirits within the figures of 'Pelasgian Hera' and Athena .

In the same conceptual framework Hephaistos was treated as the creator of the asterisms, a creative force in the Universe (Iliad I, 597 - 607) and the mythical fall on Lemnos as god's stay below the horizon, in the realm of Thetis (the asterism of Heridanus) where he created the asterisms of the S. Hemisphere (Wood, 1991). Although in the verses of Odyssey (xviii.283), the workshop of the god is on the island of Lemnos, in the Iliad (XVIII.369) this is located in the heavens. The asterism of Perseus is more probably connected with Hephaistos not because of its shape (Wood, 1991) but to its relationship with the meteor swarms of Perseids, visible from the 25th of July to the 4th of August.. These flames are also described as burning the sky (Iliad V, 4 - 8).

The two gods were considered as grand teachers of humanity (Homeric Hymn to Hephaistos). Their archetypal symbolization is related to exo-terrestrial invaders that cause terror and destruction on Earth (comets, asteroids, plasma and planet's outburst).

Athena is a mistress of disguise, as Homer constantly points out. Pallas Athena represented the proto-planet Venus (Typhon = the cometary tail of proto-Venus), in her cometary behaviour (Wallis, 1972) and was worshipped among the peoples of Mediterranean (Talbot, 1994; de Grazia, 1984b). That Venus, later identified with the goddess Aphrodite and the planet Venus' dual appearance in the sky (evening = female and morning = male), was Aphrodite barbata (bearded), or the Cyprian goddess Aphrodite with a beard, a strong image of bisexuality (Pauly - Wissowa R.E.). Athena holds also her primordial androgynous image, as male, bearded serpents were found on a pediment of the Archaic Athenian Acropolis (Talbot, 1994). Planet

Venus is symbolized by the 'crux ansata' (Egyptian Ankh), a combined phallus and vulva. Consequently, as we can detect two Heras, two Athenas and two Hephaistos in the Epics, we can also find the two Aphrodites, the Ouranian / Selenian and the planetary Venus.

Athena "she herself had no womb, for when she carried children, it was in a basket" (Deutsch, 1969). In the Orphic Hymns (32.10 - 11) is clearly addressed by the words: 'born both as male and female', 'agile and luminous' and 'draco' (for more detailed connections between Athena and Hephaistos, see also, Cook, 1914).

In ancient Asian symbolism (Japan, India), there is an intriguing and strong correlation between the sky goddess and the cosmic dragon. The Japanese monk Kokei wrote the narrative of Enoshima Engi (EE) in AD1047, mentioning spectacular phenomena that took place in the early summer of AD552 (dark clouds covering the sea, earthquakes, boulders falling from the sky, lightning-bolts, rocks and sand spurting up from the sea, flames on the water, the emergence of an island), when the bright goddess appeared above the clouds (Benzaiten / Sarasvati) and descended on the island. Modern scholars translated the narrative and highlighted the historic coherence of Sarasvati's legend in the symbolic language of Far East.

Vyasa, the narrator of the Mahabharata, is traditionally considered the compiler of the Puranas, that are a genre of important Hindu, Jain or Buddhist religious texts, notably consisting of narratives of the history of the universe from creation to destruction, genealogies of kings, heroes, sages, and demigods, and descriptions of Hindu cosmology, philosophy, and geography. The above mentioned phenomena in EE resemble to the phenomena mentioned in a Purana as having occurred around the Sarasvati River (Juhl & Iyengar, 2006). "She, whom they call the star with loosened tresses, descending as misfortune on the village. The Brahman's consort, she disturbs the kingdom where hath appeared the hare with fiery flashing". Atharva Veda-5.17.4 (R. Godbole The meaning of Vedas, online at: <http://www.themeaningofvedas.com/>). Indian legends claim that the beautiful goddess Saraswati sprung from the forehead of her father Brahma. It is said that as soon as Brahma looked at her beauty, he was filled with desire for her. Unhappy with the amorous attentions he bestowed upon her, she tried to dodge and hide. This is why the river Saraswati flows underground. And the brief appearance she made above ground is the moment, legends assert, that she stopped to rest from her tiring run. Saraswati is generally represented in Hindu mythology as the divine consort of Lord Brahma, the Creator of the universe. Since knowledge is necessary for creation, Saraswati symbolizes the creative power of Brahma and the power of the wisdom. The goddess was always portrayed with water in background, blooming lotus, white swans, and bathing elephants. She was worshiped by all persons interested in art and knowledge, especially students, teachers, scholars, and scientists (see also 2.1.1; by Richard Mahapatra <http://www.indiaenvironmentportal.org.in/node/24729>).

Mahabharata, on the other hand, mentions clearly the catastrophic cosmic phenomena: 'Noisy and burning meteorites in thousands of numbers started falling down. With terror Earth started shaking. As *Arjuna* advanced to the battlefield dry winds started blowing and *sharkarā* showered.' (7.64.6 and 7). 'When the Great War exceeding all limits began, there were catastrophes. With forests and mountains Earth shook. O King, from the skies, many meteorites like sticks and burning coal started hitting in all directions. Heavy dry winds with *sharkarā* started blowing. The elephants started shaking with tearful eyes.' (9.22.20 to 22). 'O King, like a swarm of glow-worms, the burning stone powder (*ashmachūrna*) caused such havoc that major part of your army perished.'

(7.97.36). ‘The stones were broken in the sky by sharpened arrows. The noise and commotion was so much that all your elephants, horses, chariots and infantry ran away. With that heavy shower of stone dust (*ashmachūrna*) like a swarm of angry bees, your army just scattered.’(7.97.41 and 42). *Vīrudha* was probably a large piece of meteorite and *sharkarā* or *ashmachūrna* were the smaller pieces (R. Godbole, The meaning of Vedas, online at: <http://www.themeaningofvedas.com/>).

## 2.2 *The symbolic language of Heaven: the motifs of hair/serpent, mule/horse, river/sea, birds, swastika*

### 2.2.1 *The Eastern Mediterranean framework*

Physically, Hephaestus was a muscular man with a thick neck and hairy chest who because of a shortened, lame leg (? lame = one - footed) and club foot (with feet facing backwards), supported himself with the aid of a crutch. Bearded, he most often dressed in a ragged sleeveless tunic and woolen hat. Most frequently, he was portrayed in art holding the tools of his trade, especially the blacksmith's hammer and tongs. Sometimes, he was surrounded by the Kabeiroi (Herodotus, 3.37), the dwarflike blacksmith servants of the Mother Goddess who helped in his subterranean forge. His sacred animal, the ass / mule (Hyginus *Astronomica*, 2.23; Antoninus Liberalis, 28) was also among the sacred animals of Seth - the Egyptian parallel of Typhon (in Egypt, there was a temple of Hephaistos; Herodotus, 3.37).

Vase paintings show Hephaistos upon a mule, symbol of sexual barrenness. The Roman authors represented him in the form of a phallus in the hearthfire (comet's phallus' tail). A comet in its typical apparition may be symbolized as an angel with wings, a helmeted head, a long-haired creature, a phallus with testes or as a head with two massive arms (de Grazia, 1984b). Herodotus (2.51) mentions that “the mysteries of Cabeiri-rites which the men of Samothrace learned from the Pelasgians who lived in that island before they moved to Attica and communicated the mysteries to the Athenians. This will show that the Athenians were the first Greeks to make statues of Hermes with the erect phallus, and they learned the practice from the Pelasgians..”. The characteristics attributed to him remind us of the coma when comets are hit by the solar wind. The description of an ancient Greek painting by Philostratus the Elder (*Imagines*, 1.1), too, notices that Homer inspired the ancient artist in the scene of Skamandros and Hephaistos : “.. The fire which envelops Hephaistos flows out on the surface of the water and the River is suffering and in person begs Hephaistos for mercy. But the River is not painted with long hair, for the hair has been burnt off; nor is Hephaistos painted as lame, for he is running; and the flames of the fire are not ruddy nor yet of the usual appearance, but they shine like gold and sunbeams. In this Homeros is no longer followed..”. And it is noteworthy that one of the two god's substances is characterized by speed, an attribute not consistent to his malformation. But the epithet lame in ancient Greek may also be interpreted as strong-armed and ambi-dextrous.

During the Middle Ages, comets were known as ‘hairy stars’, and their representation on coins often took the form of crude and irregularly shaped symbols such as combs, bars, pyramids, etc. It is difficult to truly appreciate the visual phenomena that such a large object could produce as it neared the furnace of our solar system. Gases from such an object might produce a tail which would span the orbits of the inner planets. When in close proximity to Earth, the size of such an apparition would make the Sun and Moon appear as dwarfs. Combined evidence suggests that our ancestors having

witnessing such mega-comet activity, were influenced both psychologically and physically (Kobres, 1992).

Additionally, Phaethon's western parallel, Quetzalcoatl (the feathered serpent), according to the Annals of Quauhtitlan, immolated himself on the shores of the eastern sea, and from his ashes rose birds with shining feathers (symbols of warrior souls mounting to the sun), while his heart became the Morning Star... Tezcatlipoca, his antagonist defeating Quetzalcoatl in ball-play (a game directly symbolic of the movements of the heavenly orbs), cast him out of the land into the east, where he encountered the sun and was burned. This may be a mythological record of an intense meteor storm from the still active Taurid stream, which presently peaks around the first of November appearing to radiate from near the Pleiades star cluster. Initially, this un-airworthy bird was associated with the meteor bombardment from comet Encke, which until recently was thought to be the sole source for the Taurid meteors. However, the discovery of other large contributors, once active comets, rules out a positive identification (see online <http://abob.libs.uga.edu/bobk/bobk.html>).

Consequently, cultures throughout the world experienced space-induced disasters, hardships and a global perturbation of climate, during the period 1200 - 1000 BC. Respectively, the upheaval of the period ca. 2.200 - 1.800 B.C. may be connected to other impact phenomena related to the deeds of the god Hephaistos and its Sanskrit parallels.

Another interesting aspect of this folk memory which might shed some light on why the rolling cross motif is linked to birds is the image of a one-legged fowl. This is also a characteristic of the Chinese divine pheasant which was closely associated with the fabulous, lame, raven-beak-nosed emperor, Yu, who could transform himself into this pheasant or a bear (Yu, who has been praised of attempts to stop floods in China, reigned according to the standard chronology from 2205 BC to 2197 BC; the legend tells that at the time of the birth of Abra(ha)m there was a supernova; Bamboo Annals give one in 2287 BC; Abraham was of age 99, when Sodom and Gomorrah were destroyed). One of Yu's enemies, the Owl, who invented thunder and lightning, was also one-footed (Lonsdale, 1982: 169-181; Barnard, 1973: 118-121 & 150-151; Barnard, 1972: 122-156).

Another aspect of comets which is evident in ancient lore involves shape shifting. A comet is three dimensional and could appear as quite a different animal when viewed from a different angle (e.g. the fabled ability of Yu mentioned above to transform into a pheasant or bear). Our ancestors' stories speak of weakening gods and fantastic births, because comets can also change spontaneously; a gas emitting area could become dust, or a piece of the comet could break away, creating another comet, perhaps initially more flamboyant than its parent. In Chinese lore, Ts'ang Chieh, the four eyed legendary inventor of writing, was inspired to create written symbols from noticing the marks of birds' feet in the sand. His ancient style is known as 'bird foot-prints writing' (Mac Culloch & Canon, eds, 1928: vol. 8 p. 31).

Symbolic bird tracks, even if they had not been recognized as such, appear on objects unearthed by Heinrich Schliemann from Hissarlik in Asia Minor (Schliemann, 1881: 334-353). More than 700 owl-faced idols and vases were also collected from the third city of Troy, as copies of the ancient Palladium, which was fabled to have fallen from heaven with joined feet.. And Glaux is the little owl, *Athene noctua*, emblem of old and new Athens, reminding us of the Homeric 'owl-eyed Athena'.

### 2.2.2 The Sanskrit framework

The seven hymns in RV, with the word *dhûmaketu*, are considered here, in the order of the books in which they appear (Iyengar, 2010). Hymn (1.27) in praise of *agni* by Sfunah.sfeपा Ajigarti, starts comparing *agni* to a horse with tail (*vâravantam*). In the next verse (I.27.2) this object is qualified as having wide motion (*pr. thupragâmâ*). In (I.27.6), *agni* is called *citrabhânu*, one having varied colours. This fire is qualified in (I.27.10) as *rudra*, one with ferocious form. In fact, instead of taking this *agni* to be earthly fire, if it is understood to be a transient celestial object, as having a tail (*vâravantam*). The transient nature of the fire, probably named *vibhâvasu* or *bhâ* with links to *maruts*, hints at this object to be a comet.

Every verse of the hymn (Hymn 1.94 to *agni*) ends with the refrain ‘let us not suffer injury as we have friendship with you’ (*agne sakhye mâ ris.âmâ vayam tava* ).’ This is a prayer to *agni* seeking protection particularly from the fiery *maruts*. RV seers call terrestrial fire *agni*, fire in the mid-space *jâtavedas* and fire in the sky *vaiûvânara*. There is a mystic meaning to the word *jâtavedas*.

The famous hymns (I.162 & I.163) on *Asfva* by Aucathya are traditionally taken to refer to the Horse-sacrifice (*Asfvamedha*). But these hymns primarily describe a bright horse-like moving object in the sky. In hymn (I.162), the celestial horse, a replica of which is sacrificed in the *Asfvamedha* is described.

This is the *medhyâûva* (sacrificial horse) born out of *tvast.â* (I.162.19). This particular verse has two meanings referring to both the divine horse which was killed by gods and the terrestrial animal which is to be similarly sacrificed by men.

The above deity called *arvan* was the first born in the sky, making sound, with wings of falcon and ankles of deer (I.163.1). This horse given by Yama was harnessed by Trita for Indra to ride. The interpretation of the word as *agni*, which as per Sâyan. would indicate the simultaneous birth of *agni* and Indra. In (I.163.3), this *arvan* is said to be threefold with three bonds in the sky (*trîn.i divi bandhanâni*). Sâyan. likes to take these three bonds to be similar to the three ropes with which an earthly horse is held (Iyengar, 2010).

Here the word *dhûmaketu* seems to be used in the sense of a smoke cover. However the *agni* addressed in this hymn has for its background not any ordinary terrestrial fire but the one in mid-space significantly coloured red. The next verse (I.94.11) mentions that the drops of this *agni* eat grass (*drapshâh. yavasâdah.*). This may as well refer to destruction of grain fields. This is followed by a request to *Mitra* and *Varun.a* to protect the poet from the strange fury of *maruts* who live in mid-space. The description of *maruts* is picturesque as, *avayâtâm marutâm hel. a adbhutah.* (1.94.12). This can be directly translated as ‘the cry (rumbling sound) of the descending *maruts* is strange (unprecedented)’.

Hymns (I.166) onwards by Agastya further reveal the physical side of *maruts*. All creatures on Earth along with their dwellings shake in fear that they might get hit by the weapons of *maruts*. The tearing weapons of *maruts* hit animals like well aimed darts. *Maruts* are visible at a distance shining like stars. The visible hair-like extension of the *maruts* is figuratively described as *rodasî*, their companion with dishevelled hairs (*vis.ita stukâ*; I.167.5). *Maruts*, although formless, seemingly have a form. They are self born and always tremble in their path. They come in thousands like waves on water (I.168.4). They came down to Earth together effortless, with burning looks and shook the mountains (*svayuktah. divah. vr. thâ ava âyayuh.... bhrâjadr.s.t.ayah. dr. l. hâni cit acucyuvuh.* || I.168.5). The next verse,

indirectly mentions that they enter the sea. *Maruts* on their approach gleam like serpents (*ahi bhânavaḥ*). Their stormy shower was only *like* a water stream.

Moreover, the *RV* poet describes the sequence in which he saw the horse. In (I.163.5) he says; 'I saw your reins' (*te bhadrâ raúanâ apasfyaṃ*). Next the poet in first person says that 'he saw the head of the horse in the sky flying down towards the Earth' (*divâ avah.patayantam patatri..... sfirah. apasfyaṃ || 1.163.6*). This is continued in the next verse to inform: 'I beheld your best form at the cow's foot' (*te rûpam uttamam apasfyaṃ.....â pade goḥ*). Primarily for an object seen in the sky it should have been natural to mention its location with respect to the stars and hence one should take 'cow's-foot' as the *naks.atra* with that meaning which is *pros.t.ha-pada* (Pegasi). Reference to this location appears again in *RV* (III.39.5 & IX.71.5). The hymn which so far described a single object, refers to multiple celestial horses in the next verse (I.163.10) comparing their flight to that of a line of swans (*hamsâ iva úren.isfo yatante*). This picture is a plain indication of bright meteorites flying like birds in a line. This simile is again used in (III.8.9) to describe the arrival of *yûpâḥ*, the sacrificial columns of gods in the sky, which has an inbuilt comet image (Iyengar 2010)

Thus, Vedic literature has sufficient evidences for us to *maruts* (a group of deities, usually known as sons of Rudra and occasionally directly as *Rudrâḥ*) in *RV*, that should have depleted the population in the northern parts of ancient India. The main action of *maruts* had been to kill. The celestial *agni*, called *dhûmaketu* (comet), was only related to two other celestial objects namely *maruts* and *vibhâvasu* (meteoric storms). They are said to be separated among themselves. They increase by two and three and their count varies from 21 (I.133.6) to 49 (VIII.28.5) to 63 (VIII.96.8). They could even be seen in waves of thousands (I.168.4) (Iyengar, 2010).

Evenmore, they are closely associated with Indra in many hymns and these read like recollection of past events for a ritual. They are drop like (falling objects) and shining like suns (I.64.2). It is indicated that *maruts* induced winds and rains before their arrival. This seems to have been the reason for the traditional interpretation of *maruts* as storm deities before rainfall. They are, also, described as having wheels of gold and rushing like boars with tusks of iron. Hymn (V.52) is a laudation in which *maruts* are said to be capable of exceeding the nights in their travel, which means they were visible in day light also. In (V.52.7) they are praised in the sky, on Earth and in the rivers. Specifically they are found in the River Parus.n.î (V.52.9). *Maruts* dug a well for Gotama (V.52.12), as in *RV* (1.85.10-11) which in physical terms would mean creation of an impact crater. This hymn ends in (V.52.17) referring to River Yamunâ. The material carried in (V.59.5) *maruts* are described to be of equal measure like spokes (in wheels) and (length of) days. 'Hey *maruts*! When you start playing, even the ancient big mountain fears your sound. The lofty regions of the sky tremble. Carrying spears you rush together like a stream of water.' (V.60.3)

Swastika, on the other hand, is an ancient world-symbol that is filled with occult meaning. It is an alchemical, cosmological, anthropological, and magical sign, and contains seven keys to its inner meaning. The motif seems to have first been used in Neolithic Eurasia. It was also adopted in Native American cultures, seemingly independently. The swastika (from Sanskrit *svastika* in Devanagari, a writing system of N. Indian languages) is an equilateral cross with its arms bent at right angles in either left-facing or right-facing direction. The swastika is a holy symbol in Hinduism, Jainism and Buddhism. The swastika is found all over Hindu temples, signs, altars, pictures and iconography where it is sacred. It is used in all Hindu

weddings, festivals, ceremonies, houses and doorways, clothing and jewellery, motor transport and even decorations on food items like cakes and pastries. The word first appears in the Classical Sanskrit, in the Ramayana and Mahabharata Epics.

Ancient Greek architectural designs are replete with interlinking swastika motifs. A swastika border is one form of meander. The Greek goddess Athena, traced in Minoan religion, Artemis and Astarte were sometimes portrayed as wearing robes covered with swastikas. In the Bhavishya Purana (one of the 18 major Hindu Puranas, written in Sanskrit and attributed to Rishi Vyasa, the compiler of the Vedas), it is a weapon of a snake king (dragon), Takshak.

According to the Comet / bird hypothesis, when a comet approaches so close to Earth, the jets of gas streaming from it, bent by the comet's rotation, became visible, looking like a swastika. This observation is drawn from an ancient Chinese manuscript that shows comet tail varieties (Sagan & Druyvan, 1985). Respectively, the swastika-like comet on the Han Dynasty silk comet atlas was labelled a 'long tailed pheasant star'.. So, many swastika and swastika-like motifs may have been representations of bird tracks, including many of those found by Schliemann in Troy (Kobres, 1992). The association of the Sanskrit term svastika with this symbol may be traced in the Astika Parva (Mahabharata), which relates the birth of a cosmic bird par excellence-- Garuda. This fabulous winged deity had a radiance like the Sun, could change shapes at will, and destroyed other gods and kings by casting down fire and stirring up storms of reddish dust which darkened the Sun, Moon and stars. Clearly Garuda was symbolic of an Earth approaching comet.

The Han Dynasty silk comet atlas is used as a compelling explanation for the ubiquity of the swastika motif. A reproduced portion of this silk atlas with its comet drawings was probably related to the breakup of the progenitor of comet Encke and the Taurid meteoroid stream (Clube & Napier, 1982: 155) Victor Clube and Bill Napier). This object could have produced several very bright comets in short period (~3.3 years) orbits that crossed Earth's path. Moreover, comet Encke's polar axis is only 5 degrees from its orbital plane (Whipple & Green, 1985). Such an orientation is ideal to have presented a pinwheel like aspect to our ancestors when comet Encke was more active. In fact, an outgassing comet that could produce a pinwheel appearance to someone looking down the comet's axis of rotation would look very different to an observer viewing the same comet along its equator (Sagan & Dryuan, 1985).

### **3. The geoarchaeological evidence : the impacted earths, the grey pottery/metallurgy and the radioactive environments**

#### *3.1. The Eastern Mediterranean data*

The 'flame of Hephaistos' or his 'red breath' (characterized as purest flame) was a leit motif among ancients (Orphic Hymn 66 to Hephaestus; Homer Iliad, II.426, IX.467, XVII.88 & XXIII.33 and Odyssey xiv.71; Hesiod Theogony, 864; Aristophanes Birds, 436; Quintus Smyrnaeus, 13.170,13. 367 & 4.160; Suidas, s.v. 'Hephaistos').

Although ancient writers mention it together with Keian, Cappadocian and Sinopic earths, (Photos-Jones et al., 1997) all four being identified as red earths, Pliny's comment makes the difference. This earth (terra lemnia, rubricata or sigillata) resembles cinnabar ( 35.14), it had a pleasant taste, too, while Galen (13.246b) adds that "it differs from miltos because it doesn't leave a stain when handled". The same

writer, during his visit to Hephaestias, analyzes the myth of Hephaistos and his relationship with Lemnos, saying that “the mythical hill, also known as Mosychlos, appeared to be burnt due to its colour and from the fact that nothing grows on it”. Belon, during his journey in the 16th cent., refers also to the yellow/white colours of the earth, equally explained by the presence of hydrothermally altered rocks. The ritual of its extraction highlights its peculiarity. On the other hand, the god was reknown as an ‘aithaloeis theos’, meaning the sooty god (Suidas, s.v. ‘Aithaloeis theos’) and in Lemnos, Hephaistos was worshipped as a god of healing, his priests possessing antidotes to poisons. Later on, the priestesses of Artemis had the right to use this earth (<http://www.gla.ac.uk/archaeology/projects/indminerals/LemnianEarth>). (Hall & Photos – Jones, 2008). That Artemis was connected to the Anatolian nucleus of Amazons. Consequently, hydrocarbon evolution due to past volcanic activity may be one explanation. Destruction layers with hydrocarbon presence and other characteristics mentioned above (like cinnabar, with sweet taste, losing its power with the time passing over or being periodically recharged) may be another evidence of past celestial events (combustion residues, chemical fusion).

Troy IIg conflagration (first fall) produced an up to 6 m. bed of ashes and a layer of calcined debris up to 3 m. high. Experts on wild fires claim that there was never seen ‘red ashes of wood in natural fires, because ash residue from the burning of a city is measured in inches, rather than feet’. The mysterious melted copper and lead which covered a large area, according to Schliemann, might have originally been deposits that contributed to the attractiveness of the site for lightning discharges. After Schliemann’s observations on this destruction layer of the ‘burnt city’, the Cincinnati archaeologists, under the leadership of Carl Blegen, examined closely the ruins of the Burnt City-Level IIg by their code. The stratum of Troy IIg had an average thickness of more than 1 m.; it consisted mainly of ashes, charred matter, and burned debris. This deposit apparently extended uniformly over the entire site, eloquent evidence that the settlement perished in a vast conflagration from which no buildings escaped ruin. The catastrophe struck suddenly, without warning, giving the inhabitants little or no time to collect and save their most treasured belongings before they fled. Moreover, the Cincinnati team mentions several places of the greenish-yellow discoloration (? sulphur oxides). The calcinated debris of the old city was strong enough to become the foundation of the new city walls of Troy III (de Grazia, 1984a). In 1948, Professor Schaeffer, excavator of Ras Shamra-Ugarit, published a treatise on comparative stratigraphy of the Near and Middle East during the Bronze Ages of the 2nd millennium B.C., in which he includes the permanent destructions of settlements from Troy and Egypt to Persia, and even beyond into China.

A cometary or planetary near-encounter results in falling of gases, hydrocarbons, burning pitch and stones. Such events are unknown to modern experience but are indicated by ancient legends from many places and by various geological and biological phenomena (de Grazia, 1984a & 1983c; Rapp & Gifford, 1982; Blegen, 1963; Velikovsky, 1950; Schaeffer, 1948; Schliemann, 1888 & 1875).

The Mexican Annals of Cuauhtitlan speaks of an “age which ended in the rain of fire”. The Popul-Vuh, the sacred book of the Mayas, narrates about an endless fiery rain from the sky. The Manuscript Quiche from the people of Mexico is more detailed as it speaks about a rain of bitumen and a sticky substance. The Papyrus Ipuwer notes that the fire almost ‘exterminated mankind’, ‘naphtha, together with hot stones, poured down upon Egypt’. Naphtha means petroleum in Aramaic and Hebrew (Coe, 1999; Gilbert & Cotterell, 1996; Tedlock, 1996; Taube, 1993; Tedlock, 1992; de Grazia, 1984a, 1983b & 1981; Velikovsky, 1955-7-1950). The afore-

mentioned clues intrigue us to think that the famous Deluge of Noah describes a period of fiery rain and not a merely water flood.

In addition, the Exodus from Egypt contains evidence of celestial phenomena (Clube & Napier, 1982). Biblical references indicate radiation and radiance of various types: a complex chemically-loaded dew, red phosphorus; hydrocarbons (naphtha), unidentified poisons; sulphur, mercury, ammonia, cinnabar (cinnamon), formaldehyde, manna and perfumes (de Grazia, 1983b).

Alternatively, what is the most astonishing is the correlation between metallurgy and natural phenomena that enhance its expansion: 'iron, though that is the strongest substance, melts under stress of blazing fire in the mountain forests worked by handicraft of Hephaistos inside the divine earth'. Once again, the sacred knowledge is derived from both gods, Hephaistos and Athena (Odyssey, vi.233 & xxiii.160; Homeric Hymn 20 to Hephaestus; Solon fr. 13; Plato Protagoras, 320C - 322A).

In ancient Greek mystical tradition an odd information seems to be rather provoking.. The 'Idaioi Daktyloi' (Diodorus, 5.63.3), well known in Minoan Crete, were interrelated with Asia Minor - especially with the area of Phrygia -, with the god Hephaistos, the technical skills of metallurgy and the mountainous regions that contained iron ores (1a, 4, F.89 SCHOL. APOLL. RHOD. I 1129). In fact, the text refers to two different situations, the 'creation of iron' and the mining activities.

In Egypt, the belief that the Pharaoh could magically control celestial events is well attested in literature. The personage of these fleshy gods was often directly equated with a cosmic object (Wainwright, 1938). For instance, we can (Faulkner, 1969: 224) in utterance 570 of the Pyramid Texts (translated sections 1454-55): 'Do not break up the ground, O you arms of mine which lift up the sky as Shu; my bones are iron and my limbs are the Imperishable Stars. I am a star which illumines the sky, I mount up to the god that I may be protected, for the sky will not be devoid of me and this earth will not be devoid of me for ever'.

de Grazia (1983c) generalized about the origin of several of the metals used by ancient people (see also: A NICKEL PICKLE The Problems of Building High-Tech From a Meteoroid Wreck, by Bob Kobres, available online at:

<http://abob.libs.uga.edu/bobk/bobk.html>). The Egyptians called iron 'the bones of Typhon', 'the metal from heaven', or 'the gift from Seth' and meteoritic iron was known to the early dynasties (Velikovskiy, 1978). As for the Hebrew, they called it 'nechoset', meaning 'dropping of the (cosmic) serpent'. We shall also remember that meteoroid falls can accomplish hard crashes, as well as soft landings. In this case, an iron ore may be formed. Similar masses of iron (ore-mountains that are evidently foreign to their surroundings) are found in Greenland, Austria, Sweden, Russia, India, N. & S. America and W. Australia (de Grazia, 2005).

### 3.2. Their Sanskrit parallels

*Maruts* showered medicines which were accepted by Manu, the ancestor of the poet (II.33.13). But, the material they rained is not said to be ordinary water. It is described as *soma*, *ghee*, milk, honey or a liquid coloured like honey (Iyengar, 2010). *Soma* had some specific characteristics, as compiled by : a) today no one really knows its identity, b) it was lost due to unknown reasons, c) various substitutes were used by ancient people, d) it was believed to be linked with – or emitting light (*jyoti*) and came from Heaven, e) it was believed to be an intoxicant or a hallucinogen, f) its juice was supposed to give immortality, g) it was a divine plant or a impact glass.

In Mandala 9 there are hardly any references of people drinking Soma, because it was considered as harmful for human consumption; nevertheless, it is possible that supernatant water mixed with milk, honey etc. was consumed initially (R. Godbole, The meaning of Vedas, online at: <http://www.themeaningofvedas.com/>)

The same author in his book '*Birth of Indra*', worked out the hypothesis that *Indra* was a bright comet visible in the sky from the 8th millennium B.C. onwards, based on the fact that the birth of this God and the terror that he created in the minds of people, was a catastrophic event. Shortly after his birth that Indra battled and eventually slew the dragon Vritra, who concealed the sun and imprisoned the waters: "Moreover, when thou first wast born, O Indra, thou struckest terror into all the people. Thou, Maghavan, rentest with thy bolt the Dragon who lay against the waterfloods of heaven" (IV:17:7). Very often, also, in the Vedic texts, the life-giving waters are compared to cows. Indra was therefore, called visvakarman (All-Maker, Creator and lord over all creation). Indra was notorious, too, for his thirst for Soma. Upon drinking it, Indra's body swelled to a gigantic size, filling Heaven and Earth (*Atharva Veda*). Some researchers interpret it as a climbing plant (*Sarcostema Viminalis* or *Asclepias Acida*), a hallucinogenic plant, some others as an ambrosia-like herb, etc. In the Veda it is explicitly identified with the milk of the celestial cows (for more interpretative details, see Ev Cochrane's, *Indra: A Case Study in Comparative Mythology* available online at: <http://www.maverickscience.com/indra.pdf>).

Other researchers (ie Parpola, 2002) discovered that in Vedic religion honey was associated with the cult of Azvins, the charioteer gods. Moreover, the southern Central Asia worship of Indra was associated with the drink called \**Sauma* (whence Vedic Soma and Avestan *Haoma*) and in all likelihood prepared out of plants of the genus *Ephedra*. *Ephedra* twigs bundled into little bags accompanied into the grave the famous mummies of the early Sinkiang culture of Loulan alias Qäwrighul (ca 2000-1550 BC). The shrine at Bronze Age settlement, Togoluk 21, dated back to the late 2nd millennium, contained vessels which revealed remains of *Ephedra*, but in conjunction with the pollen of poppies. An engraved bone tube from the same shrine was also found to contain poppy pollen. In addition, unearthed artefacts gave tantalising clues as to what sort of rituals took place in these Bronze Age shrines (eg Gonur South in the Kara Kum desert of Turkmenistan, Togoluk 1, etc). Generally speaking, Western investigators over the last two hundred years, proposed, apart from *Ephedra*, a number of hallucinogenic candidates for that psychoactive beverages, such as cannabis, a fermented alcoholic drink, Syrian rue (*Peganum harmala*), rhubarb, ginseng, the fly-agaric mushroom, opium and wild chicory ('Soma', from The Encyclopedia of Psychoactive Substances by Richard Rudgley Little, Brown and Company, 1998; see online <http://www.huxley.net/soma/>).

Moreover, there is a great tradition in metallurgy in Central South Asia, and especially around the Sarasvati – Shindi areas. The first metallic objects came from a burial excavated at the Neolithic site of Mehrgarh (Kachi plain, Baluchistan - Pakistan), dated to the first part of the 7th millennium BC. Experts say that hammering of unalloyed copper was the exclusive technique used to manufacture these small ornaments. Their discovery suggests that the first metallic objects found in this area are more than a millennium older than previously thought. Evenmore, apart from Dvaraka, more than 35 sites in N. India have yielded archaeological evidence (copper utensils, iron, seals, gold & silver ornaments, terracotta discs and painted grey ware pottery), and have been identified as ancient cities described in the *Mahabharata*. Similarly, in Kurukshetra, the scene of the great *Mahabharata* war, iron arrows and spearheads have been excavated and dated by thermoluminescence

methods to 2.800 B.C., the approximate date of the war given within the *Mahabharata* itself. So, it seems, it wasn't until approximately 3800 B.C., that bronze was produced in Tepe Yahya (Kermān Province, Iran) from the accidental blending of copper with other metals. This new mixture exhibited better properties than copper alone. By 3000 BC, the use of copper was well known in the Middle East, extending westward into the Mediterranean area.

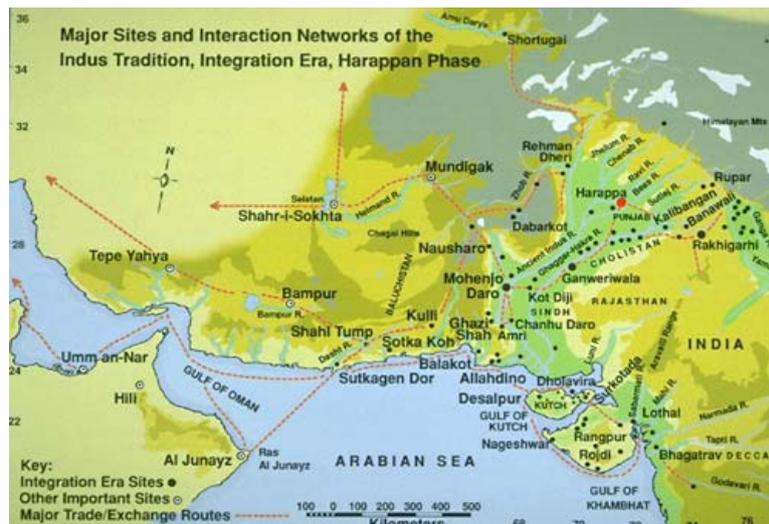
Cemeteries in present-day Baluchistan have iron objects. It is worth mentioning that the earlier iron found in Middle Eastern archeological sites was essentially meteorite material, sculptured as rock/stone carvings, and was not metallurgically processed at all, but well known in ancient India, since iron can be a by-product of copper technology. Recent discoveries reveal that iron was known in the Ganga valley in mid 2nd millennium B.C.. Rust-free steel was, also, an Indian invention, and remained an Indian skill for centuries. Another important Indian contribution to metallurgy was in the isolation, distillation and use of zinc (Tripathi, 1998).

On the other hand, although no archeological evidence of glass making is found so far in Indus Civilization, there was a substance called 'Vitreous Paste', which has a smooth (conchoidal) fracture in various colours, contains fine spherical air bubbles, shows a hardness of '6' on Mohr's scale, and a specific Gravity range 2.2 to 2.5.

Indus faience was made by pounding vitreous paste and heating the powder for moulding and coating. *Thou art one of the vedic Hiranyas (gold?), from Soma wast thou born. Atharva Veda 4.10.6. This Hiranya was born thrice, Once, when it became dearest to Agni, Once, when it fell down when Soma was bruised, Once, when it entered Waters as sperm, Let this threefold Hiranya be yours for life! Atharva Veda 5.28.6* (R. Godbole, The meaning of Vedas: <http://www.themeaningofvedas.com/>)

The naturally formed glass, which is a mixture of silica and metal oxides, occurs in three types- Obsidian (of volcanic origin), Impact glass (formed due to high pressure and temperature generated due to meteorite impacts) and Lightning & atomic explosions derived of (small glass particles are formed). The Harappa investigators point out that many, if not all, of the faience specimens have been fired at a very considerable heat and probably for a long time, as whether the quartz grains are coarse or fine the faience is thoroughly well cemented together. This Grey-ware, vitreous paste is considered by modern investigators as a vital physical evidence of past impactism.

The Late Harappan Period at Harappa is represented by the Cemetery H culture (1900 - 1300 BC), name given after the discovery of a large cemetery filled with painted burial urns and some extended inhumations. Experts have noticed that the technology of faience manufacture became more refined, possibly in order to compensate for the lack of raw materials such as shell, faience and possibly even carnelian. In addition, the reddish pottery, painted in black, with antelopes, peacocks, sun or star motifs, with different surface treatments to the earlier period, is the common one. Especially, the falling stars, the flying birds and mysterious objects with long tails or plumes of smoke, are among the impact symbolism in the iconography of the area (for a general knowledge of the area, see Kenoyer, 1991). The area was excavated by Madho Sarup Vats from 1926 to 1934, and had revealed two distinct levels of burials, but all of which were dug into a thick layer of debris that covered the ancient land surface to the South.



Networks that connected urban centers, such as Mohenjo-daro & Harappa, during the Harappan Period (2600-2000 BC) with their hinterlands and distant resource areas. [Image source](#)

Another shocking evidence comes from Palaeoanthropology. The remains of Mohenjo - Daro is in modern day Pakistan (in Larkana District, Sindh), but this ancient city was among the key centers of the Indus Valley civilization. In fact, it is the largest and most extensively excavated Indus city in Pakistan. The ruins of the valley's cities are immense. They are thought to have contained well over a million people each, with a system of town planning with straight streets and rectangular blocks, as well as wide main streets like modern boulevards, and heated public baths, a network of canals, pipes and sewers, with inspection peepholes, and an efficient drainage system with a highly efficient piped water supply. Surprisingly, the ruins of the ancient cities of Mohenjo-Daro and Harappa are extremely radioactive. In Mohenjo-Daro (for extended bibliography see:

<http://www.mohenjodaro.net/mohenjodarobibliography.html>), in an epicentre 50 m. wide, everything was crystallised, fused or melted; 60 m. from the center the bricks are melted on one side, indicating a blast. The excavations down to the street level revealed 44 scattered skeletons, flattened to the ground. A father, mother and child were found flattened in the street, face down and still holding hands. After thousands of years, they are still among the most radioactive human remains that have ever been found, comparing with those of Hiroshima and Nagasaki. Later excavation unearthed more skeletal remains in other Indus valley ruins like Harappa ('all the bones found were discolored green, and most of them had become very hard'), Dholavira, Lothal etc., now numbered, more than 300.. Furthermore, in the forest areas between the Indian mountains of Raj Mahal and the Ganges, the explorer de Camp came upon charred ruins, a number of huge masses fused together and hollowed at various points. The ancient document of Mahabharata epic gives the photographic and audio references for that catastrophic event dated to the 2nd millennium BCE (brightness of the blast, column of rising smoke and fire, fallout, intense shockwaves and heatwaves, appearance of the victims, effects of radiation poisoning), a natural disaster from Space (there is also the ancient nuclear war hypothesis). Local legend says that city of Harappa was destroyed by flood (in Punjabi, "harr" = flood and "paa " = place, remains). As for Mohenjo Daro, the linguistic evidence is also indicative (in Sindi, "mohenjo" = dead and "dero" = place, settlement).



Radioactive skeleton of a female from Mohenjo - Daro. Why did the bodies not decay or get eaten by wild animals? Moreover, there is no apparent cause of a physically violent death.. [Image source](#)

Finally, the most verified geoarchaeological evidence of Bronze Age Impactism, remains a powerful interpretative tool for Disaster Archaeology. The impact craters in Al Amarah marshes of S. Iraq (near the Tigris-Euphrates Confluence) are also dated to ca 2.000 B.C. (Master 2002). Descriptive passages in The Epic of Gilgamesh (ca 1600-1800 B.C.) may describe such an impact and tsunami, suggesting a link to the Sumerian Deluge (Britt, 2001; Matthews, 2001). Many scholars have suggested that sudden climate changes and catastrophic events around 2200 B.C., could be linked to a comet or asteroid impact (Master, 2001 & 2002; Courty, 1997; Napier, 1997; Peiser, 1997; Weiss et al., 1993; Bjorkman, 1973). In fact, Master (2002 & 2001) and Master & Woldai (2006 & 2004) estimated that the alleged Umm al Binni impact should have produced the energy equivalent to thousands of Hiroshima sized bombs. This impact signal of the 4kyr B.P. event throughout land and seas (Courty et al. in Evans et al, 2005) shows some characteristics: a) the co-occurrence in distant regions of flow-glass debris with similar petrographical and geochemical characteristics, and b) the distinctive heated soil surface, both identified the distal dispersion of an impact ejecta. The facies, petrography and geochemistry of the distinguishing features are compared from sedimentary records in soils, ancient habitations, lakes and deep-sea cores in various regions of the Northern and Southern Hemispheres. The best-preserved record of the ejecta dispersion (nearly intact signals) is observed in continental deposits at specific locations where the impact-related surface were rapidly buried. Another serious case is the Kamil Crater, in the East Uweinat Desert (SW New Valley Governorate, Egypt, 0.6 km north of the border with the Sudan and 600 m asl). It was recently located (2008), through use of Google Earth satellite imagery by Vincenzo de Michele. The first geophysical study of the Kamil Crater was conducted during an Italian-Egyptian expedition undertaken in February 2010-It is estimated to be less than 5,000 years old, and it was produced by an iron meteorite that has been given an official name after the closest topographic feature in the area, Gebel Kamil-and which fragmented into thousands of pieces upon impact with the sandstone bedrock (Folco et al., 2010).



The Kamil Impact Crater in Egypt. [Image source](#)

#### 4. The spatio-temporal framework of these disaster myths

As Dr Laoupi has already proposed, the ancient epics, both of Eastern Mediterranean and Sanskrit literature (see also 2.1.1), are of a palimpsest nature, including various disaster information dated back to second, even third millennium B.C.

The 4<sup>th</sup> / 3<sup>rd</sup> boundary and its global upheaval is detected in ancient Indian collective memory. The beginning of Kali Yuga was on 18th Feb, 3102 B.C., and seven planets near Asterism of Revati were identified, an archaeoastronomical event now confirmed, along with a comet's disintegration around 3100 B.C. Evenmore, Indus excavations show a line of discontinuity around 3100 – 2600 B.C. Finally, Dendrochronology confirms that 3102 B.C. was a catastrophic year on our planet. (R. Godbole, The meaning of Vedas, online at: <http://www.themeaningofvedas.com/>) MB mentions the drying up of River Sarasvati, connecting the river with Irin.a or the Rann-of-Kutch. It mentions that Rann would lose its sanctity since Sarasvati moved away towards the desert (Iyengar & Radhakrishna, 2007). In the first book hymn (1.186) mentions maruts to be flying over Irin.a with their sparkling missiles. Irin.a, a place or a region named six times in RV, is traditionally translated as desert. Later Vedic texts identify Irin.a with disaster. Recent research has been shown that this region, during the time of RV, should have been spatially contiguous with the present day Rann-of-kutch. In (V.52.9), *maruts* are described to crush the hills near River Parus.n.î, (River Ravi in Punjab). In the eighth book, we read about the country, full of Soma (plants), where, accordingly to Vedic tradition, the Horse's head was hit by vajra, the weapon of Indra. In RV (X.75.5), *Ârjikâ* and *Sus.omâ* are listed along with a river named after *maruts* as *Marudvr.dhâ*. These rivers are generally identified to be in Punjab. In RV (V.52.17) *maruts* are connected, also, to river Yamunâ, which almost surely would not have been following the course of the present day river of the same name. *Maruts* are also mentioned linked with rivers Sindhu (Indus), Krumu, Kûbhâ, Sarayû further NW of greater India. Consequently, the meteoritic showers covered a wide region of ancient India. Especially, in RV (II.30.8), the river Sarasvatî is said to have been followed by *maruts*. In the famous prayer to Sarasvatî by Vasis.t.ha, first the river is addressed *asuryâ* (throwers of stones) and in the next verse her friends are said to be *maruts* (VII.96.1, 2). Significantly, in the tenth book (X.17.8-9) goddess Sarasvatî is invoked seated in the same chariot as the ancestor deities, meaning that the river was treated as dead, which, in the language of RV should have been after frequent sightings of *maruts* in the visible sky above the River Sarasvatî (Iyengar, 2010).

In 1980, scientists (Professor Yashpal) announced that they had recognised the palaeo- channels of the Saraswati using satellite imagery. In 1996, Professor Valdiya had traced the course of the river from West Garhwal in the Himalayas to the Gulf of Khambhat in Gujarat using hydro-geological techniques. Other prominent scientists investigated the topic, also (Kalyanaraman, 2008a & b and 1999; Valdiya, 2002; Agrawal et al., 1980). Concluding the above-mentioned research, it is clear from the vedic texts, that the Rigvedic people lived on the banks of a river called the Saraswati. The major rivers of north-west (areas of Punjab, Sindh, Rajasthan & Gujarat) were: Saraswati, Sindhu (Indus), Vipasa (Beas), Vitasa (Jhelum), Parushni (Ravi), Asikni (Chenab), Shatadru (Sutlej), Yamuna, Drishadwati and Lavanavati. All those rivers have changed their courses since Vedic times; the last four were tributary to Saraswati; three of them, Saraswati, Drishadwati and Lavanavati, no longer exist. There were about 300 cities (plus so many supporting towns & villages) along the banks of Saraswati, having once a flourishing civilization (see, also: On the sands of Saraswati <http://2ndlook.wordpress.com/2010/05/15/on-the-sands-of-saraswati-indus-%E0%A4%A6%E0%A4%B6%E0%A4%95%E0%A5%8B%E0%A4%A3-3/>).

Later on, in the Mediterranean latitude, Troy II seems to be the witness of multi-regional catastrophes and collapse dated to ca. 2.200 B.C. onwards (Egyptian Old Kingdom, Harappan Culture, Canaanite settlements, Malta & Akkad), and to cultural revivals, migrations and social reorganizations during the period 2.000 - 1.800 B.C. The climatic upsets of the period 2.200 - 1.800 B.C. are interpreted within interdisciplinary studies. Around 2.200 B.C., in S. Asia, the Indian monsoons that provide 80% of the Nile flow was deflected. At the same time, the famous historic flood of China was followed by aridification in 2.000 B.C. and the West China's cold event (2.000 - 1.500 B.C.). Similar phenomena of extended drought are registered near the sources of Nile, Tigris and Euphrates, Indus and Yellow rivers. The impact craters in Al Amarah marshes of Iraq are also dated to 2.000 B.C. (Master, 2002). Most importantly, during the years 1.900 - 1.800 B.C. the Harappan culture in the Indus valley collapsed.

Finally, another archaeoastronomical information has been deciphered in the Iliad, offering to the scientists a strong argument on the chronological structure of the Homeric Epics (Wood, 1991). On March 5th, of the year 1953 B.C., a conjunction of five planets ( Jupiter, Saturn, Mars, Venus & Mercury) with the new moon was visible in the geographical latitude of Greece. This information, hidden in the verses of Iliad (I, 493 - 494), was referred by the Chinese astronomers of that time. Modern researchers, Kevin Pang of JPL (Jet Propulsion Laboratory) and John Bangert of the Naval Observatory ( Sky and Telescope December 1993, Newsnotes 13 - 14; see online at: [http://www.jpl.nasa.gov/releases/93/release\\_1993\\_0610.html](http://www.jpl.nasa.gov/releases/93/release_1993_0610.html)) have discovered that the conjunction was visible in the night sky for some days, in fact, during the 26th of February their alignment was the most perfectly observed for the last 6.000 years! In fact, Pang found a passage in a 1st century B.C. text of Hong Fan Zhuan, that says: "The Ancient Zhuanxu calendar (invented in about 2000 B.C.) began at dawn, in the beginning of spring, when the sun, new moon and five planets gathered in the constellation Yingshi (Pegasus)". This book was written by Liu Xiang who lived from 77 to 9 B.C.

Evenmore, one of the three cities of Troy, described by Homer is referred to the period around 1.800 B.C., when the polar star Tuban (a Draco), according to the phenomenon of the wobble of Earth's axis (Precession of the Equinoxes), gave its place (Indra killing the dragon?) in the heavens to the star b Ursus minor. The fall of

that Troy was also symbolized by the retirement of the constellation Ursus major from the area of the celestial North Pole.

The other, Troy VI, was under siege ca. in 1312 B.C., as new archaeoastronomical evidence of a total solar eclipse implies (Henriksson, 2007 & 2006; Pang et al, 1989). The text of Parâúara, and subsequently Vr.ddha-Garga, preserves a tradition originating around 1400 BC, but records a list of twenty-six comets (*Ketu*) with names and year numbers going back in time for nearly 1300 years! This fact not only supports the deciphering of some *RV* deities as transient celestial objects, but also indicates the existence of a parallel tradition of sky observations contemporaneous with what is mentioned poetically in *RV*. The information includes comets' specific names, year number, position in the sky, movement, colour, visibility, duration, and effect on Earth. The ancient astronomers classified meteors (*ulkâ*) into five types; they even proposed the existence of a dark object called *Râhu* as the cause of both solar and lunar eclipses, already known to the Atharvan.a Veda. They were also aware of some periodicity in the occurrence of eclipses, even though their values lacked clarity.. In all the ten books of Vedic literature, can be found direct and indirect references to the battle between Indra and Vr.tra, for reestablishing the light. The release of waters of *RV*, is most probably the *samplava* (Flood) of Parâúara, from which his tradition counts sequentially the years for the appearance of twenty-six comets (in Atlantis story by Plato, the Egyptian priest correlates Deucalion's Flood and Phaethon's event). According to Sanskrit researchers, the references to the moon, months, intercalation and the lunar number 3339, probably belong to another strata of *RV* coming after the havoc caused by *maruts* and the consequent climate alteration effects subsided. The above-mentioned number 3339 seems to be the 18-year eclipse period associated in *RV* with the moon and a total lunar eclipse (Iyengar, 2010). The last Homeric Troy of Odysseus, now can safely dated to the beginnings of 12<sup>th</sup> century BC (thus the second sack of Troy by the Achaeans ca in 1190 B.C.). Astronomical references in *Odyssey* (book xx, 356-357), seem to pinpoint the total eclipse of the sun on the day that Odysseus supposedly returned on at Ithaca, April 16<sup>th</sup>, 1178 B.C., close to noon local time. The seer Theoclymenus foresaw the death of the suitors, ending by saying "the sun has been obliterated from the sky, and an unlucky darkness invades the world"; the Greek philosopher Heraclitus and the historian Plutarch suggested, first, that the prophecy of Theoclymenus referred to a solar eclipse. More recently, astronomers Carl Schoch and Paul Neugebauer computed in the 1920s that a total solar eclipse occurred over the Ionian islands. Finally, physicist Marcelo Magnasco and astronomist Constantino Baikouzis investigated also other celestial events registered in *Odyssey*, before concluding to the same result (Baikouzis & Magnasco, 2008).

## **5. Having one more candidate : The Greek legend of Phaethon and its Sanskrit parallels**

In 1927 Franz Xaver Kugler, a Jesuit scholar who had devoted over 30 years to the study of cuneiform astronomical texts, published an essay entitled 'The Sibylline Starwar and Phaethon In the Light of Natural History', asserting that a large impact event in the Mediterranean Sea inspired fire-from-above legends such as Phaethon's ride. Coincidentally, it was also in 1927 that Leonid Kulik, a Russian Scientist,

located the area which were devastated by the 20 MT aerial explosion in 1908 (<http://abob.libs.uga.edu/bobk/bobk.html>) (Kobres, 1995). Emilio Spedicato (2007) suggested the year of 1447 B.C. as Phaethon's passing, Clube and Napier (1982) the year 1369 B.C., and Kobres (1995) and Papamarinopoulos (2007) the year 1159 B.C., respectively. In fact, the archaeoastronomical evidence has probably found the main responsible for the periodical havoc caused on Earth during the Holocene: fragments of the initial giant comet Encke, which first appeared 20 kya, approached the Earth every 1000 years or so, causing various environmental disasters. The Bronze Age years were about 1200, 2300 and 3300 B.C. (Clube & Napier, 1990). Papamarinopoulos (2007) suggested a further coherence, the Greek goddess Athena with Phaethon as female appearance (Phaethoussa) and the Egyptian Sekhmet. "For in truth the story that is told in your country as well as ours, how once upon a time Phaethon, son of Helios, yoked his father's chariot, and, because he was unable to drive it along the course taken by his father, burnt up all that was upon the Earth and himself perished by a thunder-bolt. Now this has the form of a myth, but really signifies a declination of the bodies moving in the heavens around the earth, and a great conflagration of things upon the Earth, which recurs after long intervals" (Plato Timaeus, 22.c.3-7).

In the Sanskrit parallels of disaster myths, *Agni* and *Indra* are the most important deities of *RV*. Professor Iyengar (2010) gives an excellent presentation of references, the exact order and notes of which is kept untouched below. In *RV* (1.51.4), Indra is said to have established sun after destroying *Vr.tra*, and *maruts* are prayed to remove the darkness and create the light, which people were longing for (1.86). Hymn (I.175) is about Indra stealing Sun's wheel, which could be a euphemism for the absence of normally expected rise, movement and setting of the sun. Hymns (1.183 & 184) refer to the ending of a period of darkness. In the second book hymn (II.15) is about Indra crushing the vehicle of *us.as*, which is a metaphor for a continuous dawn like condition without a visible sun. Indra had to be supplicated by men who struggled to get sunlight (II.19). Indra found the sun dissolving in darkness near the cow's-foot (*sûryam viveda tamasi ks. ayantam* / III.39.5). In (IV.16.9) Indra is implored in the battle for sunlight. Indra is said to have hurt *us.as*, daughter of the sky, near River *Vipâûa* (IV.30.9-11), which refers to absence of day break. This event is recounted in a slightly different form in the tenth book in hymn (X.138). In hymn (V.31.11) when the night was ending, sun's wheel is said to have gone backwards (? a wide meteoritic ring or trail of a comet obstructing the sun's orb being seen from the Earth). Another hymn mentions (X.156.4) that *agni* has made sun mount the sky. Several hymns to Indra are prayers for sunlight or laudation after sunlight was restored. In (VI.17.5) Indra gives splendour to sun, which had been lost. In *RV* (VI.39) the reference is to a light called *indu* which brightened the worlds that were not shining. Reference to the widespread abnormal darkness appears in one form or other in several places of *RV*, with its all pervasive cosmological, philosophical, mystical and religious influence spread all through the later Vedic texts (Iyengar, 2010).

Moreover, modern researchers claim that there are at least three layers of text in Mahabharata, too, as in the Homeric Epics, since the war is only one incident in them (Laoupi, 2006). Planetary placements, solar eclipses and cometary references alloy their counting. MB knows, also, the drying of the river Sarasvati. Another, perhaps chronological tool, is that MB mentions donkey / mules (*khara*) drawing chariots (see Hephaistos' depictions in contrast to Phaethon and the horses of Sun) as the fastest way of transport, so the horses came at a later layer of the text.

This different nature of the two bodies (Hephaistos & Phaethon) is also testified by the verses of Nonnos (Dionysiaca, 29.376), where the god Ares seems to be willing to fight against Zeus, Phaethon, Hephaistos and Athena (comets, meteoric showers and other impact phenomena!), in order to set his beloved Aphrodite free (and Hermes addressed Phaethon as follows: "Then you will shine in the sky like the Sun God next to Ares, scattering that thick invisible darkness far away; a miracle unheard of in the course of the ages"), as in the famous text from *Odyssey* (see 2.1.2).

The implication of all these afore-said cosmic bodies (Sun, Zeus, Poseidon as Earth, Phaethon) is also testified in the Greek myth. Phaethon accidentally turned most of Africa into desert; bringing the blood of the Ethiopians to the surface of their skin, turning it black. "The running conflagration spreads below. But these are trivial ills: whole cities burn, And peopled kingdoms into ashes turn" (Ovid, *Metamorphoses* Book II. PHAETHON). Rivers and lakes began to dry up, Poseidon rose out of the sea and waved his trident in anger at the sun.. Eventually, Zeus was forced to intervene and stroke the runaway chariot with a lightning bolt to stop it, Phaethon plunging into the river Eridanus. Then, Helios, stricken with grief, refused to drive his chariot for days, blaming Zeus for the death of his son. Finally the gods persuaded him to not leave the world in darkness. More specifically, Aristotle mentions that "...the stars...fell from heaven at the time of Phaethon's downfall". So, the ancient Greek philosopher claimed that Phaethon caused a meteor shower (*Meteorology*, book I, part 8). This has led many modern scientists, including Velikovsky, to speculate that Phaethon was a comet. Velikovsky concluded from his extensive interdisciplinary research that the planet Venus was remembered from the time of the dawn of civilization as a brilliant cometary body, too. In an alternate genealogy, Phaethon was the son of Eos and Cephalus, whom Aphrodite stole away, while he was no more than a child, to be the night-watchman at her most sacred shrines (Hesiod *Theogony* 986; Apollodorus 3.181; Pausanias 1.3.1). The Minoans (Pelasgian substratum) called him Adymus, by which they meant the morning and evening star (Hesiod, *Theogony*, 986; Solinus, xi:9; Nonnos, *Dionysiaca*, xi:131 and xii:217). "The fourth star is that of Venus [Aphrodite], Luciferus [Eosphoros] by name. Some say it is Juno's. In many tales it is recorded that it is called Hesperus, too. It seems to be the largest of all stars. Some have said it represents the son of Aurora [Eos] and Cephalus, who surpassed many in beauty, so that he even vied with Venus, and, as Eratosthenes says, for this reason it is called the star of Venus.. " (Pseudo-Hyginus, *Astronomica* 2. 4).

## 6. Speculations & Conclusions

i. Multi-polar historical perspectives should replace monolithic analyses of ancient myths, by using interdisciplinary and cross-cultural data within the framework of Disaster Archaeology's methodology. As the author has already proposed, the ancient epics, both of Eastern Mediterranean and Sanskrit literature, are of a palimpsest nature, including various disaster information dated back to second, even third millennium B.C. The ancient disaster myths include the evidence for past celestial events that resulted in various interconnected hydrometeorological, geological and bioclimatic phenomena (i.e. changes in the geomagnetic field of the Earth, earthquakes, volcanic explosions, spread of contagious diseases, changes in the atmospheric balance & the biochemical equilibrium of soil, air & water) on Earth. Those interconnections had been also mentioned by the ancient and medieval authors

long before the 19<sup>th</sup> & 20<sup>th</sup> centuries, when Science started to explain them with strict interdisciplinary methods and techniques.

Hephaistos with his flame, Mars, Venus and rare planetary conjunctions, the wrath of celestial gods (i.e. Apollo & Artemis), falling stones, arrows that bring devastation, malignant signs & disturbance of the hydroclimatic balance (i.e. patterns of the Etesian Winds), deathly epidemics along with other natural phenomena, elimination of humans and new generations arisen, all these symbolic features disclose the powerful truths behind the legendary narrations and local traditions of the past. Furthermore, the symbolic language that reveals plagues, upheaval and natural bio-disasters reminds modern scientists of neglected or hidden parameters of environmental, socio-economic and cultural changes.

ii. Destruction layers exhibiting abnormal traits, are found around the Bronze Age Mediterranean world, and beyond. Similar traits do not justify natural events like earthquakes and human-induced fires. Excessive influx of cometary debris (without impact events) may precipitate an enhanced zodiacal light, and provoke extreme aurora events caused by a disturbance of the geomagnetic field in our planet (<http://www.mythopedia.info/>). These spectacular instabilities in the plasma were remembered as dragons and warring gods. Of course, the phenomenon of an enhanced aurora may be triggered by an extreme solar weather, the passage through a gigantic molecular cloud or the disintegration of a giant comet in the inner solar system, event by a combination of these parameters. Such visual experiences reformed the psychological, sociological and artistic aspects of the myths. Respectively, the scenario of conflagration is enriched by other natural phenomena related to cosmic invaders which cause a 'Tunguska type' event. In recent years scientific evidence for near earth objects to have impacted Earth in the past has been growing. It is known that the path of the Taurid group of extra terrestrial objects consisting of meteors, meteoroids, asteroids and Comet Encke intersects the orbit of the Earth. Some of these objects instead of reaching the ground, may vaporize in the atmosphere leading to air blasts and fires as it happened in Tunguska, Siberia in 1908. It is held by astronomers that in the last 10 ky, Comet Encke has split severally to disintegrate and leave a trail of debris causing dust veils that could have temporarily blocked sunlight reaching Earth. Alternatively, Gas cloud (de Grazia, 1981), 'swamp gas' (usually called that way even if it is generated from earthquake gas-issuing fissures) that cause asymmetric areas of destruction (Ion Nistor), or 'vacuum bomb' during high altitude explosions (G. A. Nikolsky et al.) can be added to the catalogue of impact phenomena. Moreover, mega-lightning and fire-storm (due to interplanetary discharge or to bolide and lightning-fire shower?) could be considered as the main contributors to the destruction of Troy VIIa (Phaethon's time). Ancient writers often refer to the catastrophes of prosperous cities, like Sodom and Gomorrhah, and Bolsena, the richest town in Tuscany, by extreme thunderbolts (de Grazia, 2005). To sum up, Taurids' complex, P / Encke & Oljato, and Hephaistos are now recognised as an intruders' 'system' that caused repeated havoc on Earth, via various interconnected phenomena (impacts of asteroids, cometary debris, meteoritic showers).

iii. The R.gvedic descriptions of *maruts* killing people on Earth, birth of *agni* and the Horse in the sky, Vr.trâ covering the sun, Indra restoring sunlight, and celestial deities coming down to Earth (India), are to be taken as space – induced disasters & events that have happened even in the 3<sup>rd</sup> - 4<sup>th</sup> millennium BC or earlier. This hints that the Taurid complex was the most likely causative agent in the *Yajurveda* period since even now the two branches of the Taurid meteor shower

appear in May-June and November-December. The later Vedic texts, also, declare that once upon a time people got killed by *maruts*. These points reinforce the conclusion that *maruts* in *RV* represent meteoritic showers and not thunder storms of the rainy season (Iyengar, 2010). Evenmore, Indra may symbolize the bright comet, the main cause of catastrophic events, Adityas are bright comets formed by disintegration, and Rudra-Maruts are meteoric showers. But, Indra, too, the mighty one, " didst crush Usas, though daughter of sky, when lifting up herself in pride. Then from her chariot Usas fled, affrighted, from her ruined car, when the strong god had shattered it. So there this car of Usas lay, broken to pieces, in Vipas, and she herself fled far away (*RV* – 4.30.5, 9, 10, 11). Later on, Indra's position has been reduced to that of a rain-god in later Sanskrit literature. Perhaps this made *maruts*, the constant companions of Indra to be equated with winds (Iyengar, 2010).

iv. Hephaistos should be treated as a 'previous' situation in comparison to Phaethon, and not identified to it. Hephaistos and Athena was a 'couple'. Athena was probably the proto-planet Venus (shared some characteristics with the goddess Saraswati); some impact phenomena took place between that Venus and (?asteroid/comet) Hephaistos, causing havoc on Earth. Phaethon was related, according to Greek writers, to Venus (since the Minoan – Pelasgian times), as a youngster who was nominated as night-watchman at her most sacred shrines.. The 'androgynous' nature is both present at Hephaistos / Athena and Venus / Phaethon levels. Alternatively, Radlof's theory (1823) claims that the planets were on different orbits than today, speculating that the planet Venus (Hesperus) was one of the fragments of the exploded planet Phaethon (between Mars and Jupiter) by a comet from Jupiter belt, explaining both Varro's statement regarding Venus' changed appearance, and Phaethon's links to Venus.

v. Hephaistos, Athena and Indra had, also, another dual archetypal substratum. They were both destructors and life-givers & protectors. For instance, Metallurgy in impacted areas was considered as a gift of sky gods. Phaethon, as a later sky episode, has more concrete traits, those of the cosmic destructor, representing the intruders in our planetary system that disturb the normal orbits of the planets, as the Egyptian priest claims in Plato's narration. Shortly after his birth, Indra battled and eventually slew the dragon Vritra, who had concealed the sun and imprisoned the waters, securing, in this way, the release of the sun together with the life-giving waters (*RV*, IV:17:7). According to Velikovsky (1950), the universal myth of the dragon-combat reflected a celestial drama of recent occurrence, one which featured the planet Venus in a wildly erratic orbit. Swastika was the symbol of the dragon.

So, Indra holds apart, the Heaven and the Earth, becoming Creator and Lord of the Cosmos. Moreover, Indra was invoked as the supporter of Heaven, as well as a tree, spring, and mountain (common symbolic motifs worldwide of Axis Mundi). He restored the sun's path and Maruts (meteors) are its companions, as a phenomenon of our solar system. Additionally, a plethora of modern astrobiological evidence suggests that life and waters on Earth are probably of cosmic origin.

But, modern researchers have convincingly pointed out, also, symbolic similarities between Indra and planet Mars / Greek god Ares in his destructive behaviour in the Bronze Age skies (see: Ev Cochrane, Indra: A Case Study in Comparative Mythology, available online at: <http://www.maverickscience.com/indra.pdf>). This fact could echo, surprisingly, the erotic triangle of Hephaistos – Venus – Mars in Homeric *Odyssey*, where Hephaistos is furiously against Ares, whilst, in the Homeric *Iliad* (XXI, 405-408), Ares fall in battle at the hands of Athena. Equally, Indra could

be interpreted as destructor and protector, or being 'two' Indra (like the two 'Venus' & 'Hera' in the Epics).

vi. Another shocking detail arises in the motif of the charioteer. Auriga is a constellation in the northern sky. Its name is Latin for 'charioteer', from the ancient Greek Heniochos. In ancient Greek tradition and until the 17<sup>th</sup> cent. AC, he was the personification of Erichthonios (< eris = strife + chthon = Earth), son of Hephaistos and Athena, who invented the chariot drawn by four horses, in order to be able to travel (he was also lame as his father). The lower part of his body was snake-formed (Hyginus, *Fabulae* 166). He is represented in the statue of Athena in the Parthenon temple (Athens' Acropolis) as the snake hidden behind her shield, because it was said that when the basket was opened, he jumped out and hid behind the shield of Athena (the Aegis). So, a snake was kept in a basket at the foot of Athena's statue in the Parthenon, representing him. He was, also, associated, by Manilius (*Astronomica*, book V, pp. 305-309) and later, by J.J. de Lalande, to Bellerephon, Phaethon and Absyrthe, or *Apsurtos*. In Indian mythology, we can detect a parallel for this charioteer motif, Aruna, or Arun, as in the Hindu Pantheon Surya, the sun, is shown drawn by four horses, with his charioteer, the lame Aruna, seated in front of him. He is believed to be a cripple (without thighs), and characterised as *the reddish one*. Aruna is also the name of the Hittite god of the sea", the Vedic Varuna. In Graeco-Babylonian times, the constellation was Rukubi, the Chariot. A Turkish planisphere shows Auriga's stars depicted as a Mule.

Surprisingly, once again, legends of the ancient world give us the answers. The mythic heroes Erichthonios (serpent-like), Bellerephon (dual nature: Pegasus as a winged horse = comet, and as slaughterer of the dragon Chimera) and Phaethon (charioteer) were the cosmic charioteers, who come in the skies generations after their parents' (Hephaistos & Athena) appearance, and 'died' punished for their arrogance. It is noteworthy that Erichthonios' & Bellerephon's cults belong to the Pelasgian substratum (Anatolia and Asia Minor), as Hephaistos did. Bellerephon was the greatest hero and slayer of monsters, alongside of Cadmus and Perseus, who had, also, fought against dragons, and were associated to Eastern Mediterranean mythological cycles. In fact, some of the red-figure pottery painters show Bellerophon wielding Poseidon's trident instead (Kerenyi, 1959). And a final remark, Euripides wrote two more tragedies, 'Bellerefontes', today lost, and 'Phaethon' (fragmentary). Carpenter (1950) made a carefully-argued case for *Bellerophontes* as the "bane-slayer" in Iliad, II.329 (< a rare Greek word *ἐλλερον*, = evil). This *ἐλλερον* is connected by Katz (1998) with *ελυες* (water animal) of Hesychius, and an Indo-European word for 'snake' or 'dragon' (cognate to English 'eel'), also found in Hittite 'Illuyanka'. Graves (1969) suggested the translation of one who 'bears darts'. So, the whole motif is repeating, with Bellerephon & Chimera, Indra / Vrtra, Thor / Midgard Serpent, etc.

vii. Phaethon / Sekhmet / Surtr in the second half of the 2<sup>nd</sup> millennium BC (Combes, 2007). The devastating fire of Sekhmet torched the lands of the 9th cycle. During antiquity, our planet was divided into nine parallels, the 9th comprised of the northern lands, such as Sweden, Norway, Denmark, N. Germany and Iceland (Edgerton & Wilson, 1936). Inscriptions and texts from the Near East civilizations referred to 'the fire -star that was wandering in the sky and then, fell on Earth, causing death and devastation'. The Egyptians during the reign of Ramesses III, claimed that Sekhmet (Greek name, Sachmis) disturbed the harmony of the world (Spanuth, 1977: pp. 170-171). According to an Egyptian myth, the god Horus, himself, was burned by the lethal fires of the goddess Sekhmet, a warrior goddess whose breath created the desert (Pinch, 1994: 45). Sekhmet, also, was seen as a bringer of disease as well as the

provider of cures to such ills. During an annual festival - of intoxication - held at the beginning of the Egyptian year, the Egyptians danced and played music to soothe the wildness of the goddess and drank great quantities of beer ritually to imitate the extreme drunkenness that stopped her wrath - when she almost destroyed humankind. Her cosmic trajectory of the 2nd millennium BC, probably followed a SE / NW orientation, from the Indian Ocean, to N. Africa, Eastern Mediterranean, Central Europe and North Sea. The Epic of Ragnarök speaks of the Fire Giants that came from the South.. Modern researchers, in fact, claim that they are safely able to date the events, based on archaeological testimonies and archaeoastronomical calculations (keep in mind, also, the ancient Greek tradition recording that Bellerophon's grandsons Sarpedon and the younger Glaucus fought in the final Trojan War). The ancient Egyptian disaster symbolism and cosmivision, included, also, Apophis, the demon - dragon, who was born from Neith (the parallel of Athena) and was the constant rival of the sun's itinerary in Heavens. His blood turned the sky's color in red. In fact, it is the Greek name for the Egyptian mythological creature Apep, the symbol of all evil things, the personification of darkness and chaos (for more details, see Maravelia, 2009).

In Norse mythology, Surtr (< old Norse black or the black one) is attested in the *Poetic & Prose Edda*. In both sources, Surtr is foretold as being a major figure during the events of Ragnarök; carrying his bright sword, he will go to battle and afterward the flames that he brings forth will engulf the Earth. He comes from the South, and he is mentioned as having a female companion.

viii. According to Clement of Alexandria in his *Stromata* (book I), "...in the time of Crotopus occurred the burning of Phaethon, and the deluges of Deucalion. The Egyptian priest, too, in Plato's *Timaeus*, refers to the event of the Deluge and the 'Greek' legend of Phaethon. We, also, saw the connection of Indra and the release of cosmic waters, but let us return to the ancient Greek tradition. Deucalion was the son of Prometheus, the creator of mankind, while Pyrrha was the daughter of Pandora, the first woman. In Hyginus' *Fabulae* (152 A / CLII .A), Zeus pretended that he wanted to put out the fire, caused by Phaethon, so, he let loose the rivers everywhere, and all the human race perished except Deucalion and Pyrrha. The mythographer Apollodorus wrote that Zeus wished to destroy the men of the Bronze Age, giving, this way, an first framework of the event. According to the myth, the devastating waves of the flood were ordered back by Triton's blowing the conch. The conch had been used by Aigokeros (Capricorn, the goat-fish), who ruled the winter solstice in the world-age when Aries "carried" the sun. Thus, this formula includes the information of a constellation that ceased to mark the autumnal equinox, gliding below the Equator (being drowned)..

Aquarius was called 'Deucalion' in astronomy (Hyginus, I.II). In Attica, he was, also, called 'Cecrops', that's why Suidas observes the division of the Athenian people by Cecrops related to the four seasons, twelve months, thirty days, etc. The name is not of Greek origin according to Strabo (7.7.1), or it might mean 'face with a tail': it is said that, born from the Earth itself, he had his top half shaped like a man and the bottom half in serpent or fish-tail form. In the ancient Athenian tradition those two events (Deucalion flood / Cecrops & Erichthonius / Phaethon, are inextricably interrelated.

An intriguing testimony is given by Nonnus, (*Dionysiaca* 6. 206 ff), where he describes the great Deluge in astrological terms: Sun in Leo (summer solstice) + Moon in Cancer + Venus in Taurus + Mars in Scorpio (just opposite of Venus) + Jupiter in Pisces with Moon trine + Saturn back from Aquarius, to his home at

Capricorn. "After the first Dionysos [i.e. Zagreus] had been slaughtered [by the Titanes], Father Zeus learnt the trick of the mirror with its reflected image. He attacked [Gaia, Earth] the mother of the Titanes with avenging brand, and shut up the murderers of horned Dionysos within the gate of Tartaros: the trees blazed, the hair of suffering Gaia (Earth) was scorched with heat. He kindled the East: the dawnlands of Baktria blazed under blazing bolts, the Assyrian waves set afire the neighbouring Kaspian Sea and the Indian mountains, the Red Sea rolled billows of flame and warmed Arabian Nereus. The opposite West also fiery Zeus blasted with his thunderbolt in love for his child; and under the foot of Zephyros the western brine half-burnt spat out a shining stream; the Northern ridges-- even the surface of the frozen Northern Sea bubbled and burned: under the clime of snowy Aigokeros [i.e. the constellation Capricorn] the Southern corner boiled with hotter sparks...". After that upheaval which caused burning heat across the N. Hemisphere, the deluge happened.

Consequently, the symbolic motifs of the charioteer (Phaethon) and the fish-goat (Deucalion) were interconnected in time, giving to modern researchers a safe dating tool (for another analysis of this flood event, see Spedicato, 2007).

Thus, groups of prehistoric people, all around the globe, left their memories of divine (celestial) catastrophes in poetic language upon which, their successors added further observation of the sky leading to lunar & solar rituals and calendars. The legendary tales and the 'persons' (gods & goddesses, heroes, companions, offsprings, etc) involved, do not exclude each other, in fact, they are perfectly interconnected, giving us, the general chronological framework to those stories and the pace of those repeated cycles of havoc in Heavens and upon Earth..

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