

From Phaethon to Pachamacac

Hypotheses and
scientific approaches
to human memory of
great catastrophes

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Introduction

- In ancient texts, both of sacred character (Bible, Koran, Rig Veda...) or of popular character (Homeric, Iranian, Kirghisian, Scandinavian epics...), we often face events of exceptional nature, often catastrophic. These can be interpreted symbolically or as the memory of real events, so that we can consider modelling them mathematically.
- We shall consider some of these cases.

Catastrophes in ancient texts

- In Plato, *Timeus* and *Critias* (but likely known to *Ellanicus* and *Pythagoras*, from Egyptian source or even Indian, and to the author of *Nihongi*), it is stated that Earth was affected several times by catastrophes of extraterrestrial nature, characterized by fire and water. Three such events were very great, namely the last one, the *Deucalion flood*, and the first one, which took place 9000 years before *Solon* time, with the destruction of *Atlantis*. In *Herodotus*, *Pomponius Mela* (and in the *Koran* in a special way) it is stated that the sunrise and sunset positions of Sun hanged three times, a fact that if true should relate to catastrophic events.

A memory of 4 catastrophes

- In the Mayan codices that escaped the bonfire of bishop Diego de Landa, and in Popol Vuh, 4 great catastrophes are remembered, one from fire. This statement suggests that America preserved a memory older than that in the Old World, since the fourth catastrophe fits well an event discovered only very recently: the impact circa 10.900 AC of a rather large asteroid over Canada. Such an event terminated the Clovis era, burned forests over million square kms forming the black mat layer, and made climate more severe.

The Atlantis catastrophe

- The story of Atlantis presents a civilization whose center is beyond the Atlantic, which is given definite geographic features. It was destroyed about 9500 BC by a catastrophe characterized by a giant tsunami lasting several days. After the event, memorized by people in Ethiopia who repopulated Egypt after a thousand years, the Atlantic Ocean was no more navigable and the island disappeared.
- The given geographic data agree with Hispaniola in the Caribbeans. This island was called by the Taino local inhabitants Quisqueya, meaning **MOTHER OF ALL LANDS**

Atlantis = Hispaniola = Quisqueya

- Quisqueya has mountains reaching 3000 meters, close to the shore, and rivers and lakes
- It is rich in copper mines (the orichalc?) and gold, facts that led to the destruction of the natives at Columbus time
- It has a flat area extending from east to west with many rivers and protected by hills and mountains from the northerly winds
- The coasts are steep and can be imbedded in a rectangle with the size given by Plato to the irrigated plane
- The capital city was located probably on the southern side
- Bartolome de las Casas describes Hispaniola like Plato

ATLANTIS END THE END OF LAST ICE AGE

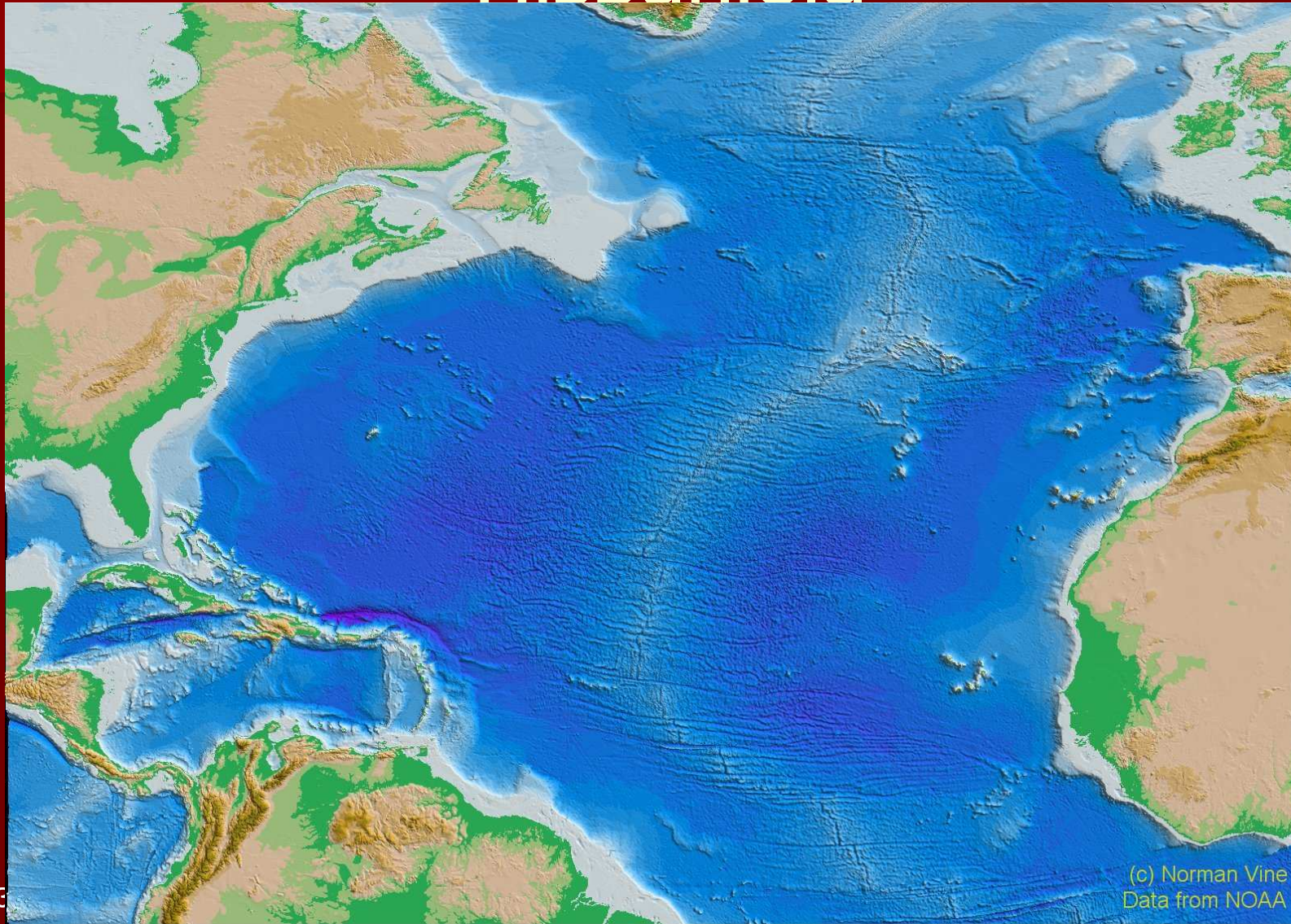
- The time given by Plato for the end of Atlantis corresponds to the time for the end of the last Ice Age
- There is now evidence that the Ice Age terminated very fast, see the book of two Oxford geologists **ICE AGE ENDED IN LESS THAN THREE YEARS**
- Analysis of sediments in northern Atlantic has shown that temperatures increased over 25 degrees in less than 5 years (Petersen et al)

Map of Hispaniola

Hispaniola



Atlantic ocean, sea deep around Hispaniola



Possible extraterrestrial causes

A rapid end of an ice age can be explained by two extraterrestrial events:

- oceanic impact, fracturing the thin oceanic crust and letting magma pour out with production of warm rains
- Close passage of a large object leading to some deformation of Earth due to gravitational tide, and again letting magma pour out from oceanic ridges
- First cause appears less likely for last Ice Age since no crater has been found

Close passage of a large body and capture of Moon

Ancient data suggest that a large object passed near Earth, possibly the Pachamacac of Chimu, or the Nibiru of Sumerians. Possibly from it Earth acquired Moon.

- The time before the Moon is quoted in the Bible, Job 25-5 and Psalm 72-5
- For the Hindu the Moon was born from a boiling sea
- For the Malekula of New Guinea: air was filled of vapours, when these disappeared the sea level had increased and the Moon shined in the sky
- Stated in Democritus, Anaxagoras, Aristotle, Apollonius, Plutarch, Ovid, Hyppolitus, Lucian....

Mathematical analysis of Moon's capture

- Capture impossible in a 3 body system with only gravitational forces, but no problem in a 4 body system. Analysis planned.
- Turkish symbol of half Moon with a five pointed star inside and the passage in Censorinus
ARCADIANS CLAIM THAT BEFORE THE MOON EXISTED THE YEAR CONSISTED OF 3 MONTHS
suggest the loss of a previous satellite: Mars?
- If Mars was lost, here are arguments that it approached Earth closely every 54 years until a special event circularized its orbit

The Deucalion catastrophe

- Deucalion catastrophe following Orosius took place at time of Exodus, of India invasion by Dionisus, of migrations and climatic troubles, and was due to the explosion of Phaethon
- Can be dated at 1447 BC, at the end of Egypt Middle Kingdom by the invasion of the Hyksos-Amu-Amalek from Turan
- Homer does not quote Deucalion but refers to Phaethon and Lampos as celestial bodies visible at sunrise. Such bodies were possibly perturbed by some event, with Lampos crashing over Africa (Mauritania, South Egypt?) and Phaethon getting into an orbit spiralling towards Earth

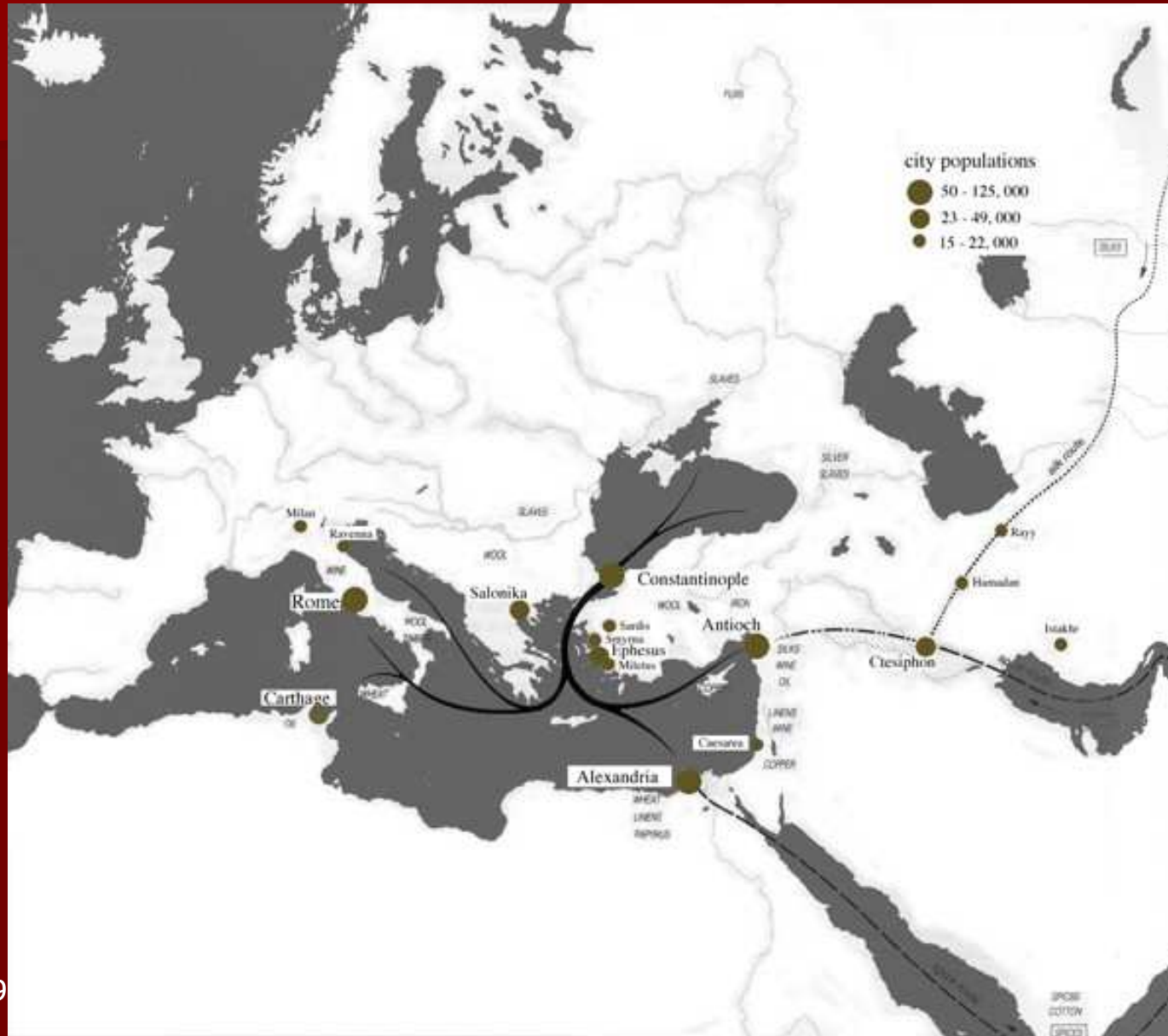
The Lampos crash: some effects

- Assuming for Lampos and Phaethon sizes of 1-3 km a crash of Lampos over Africa would spread much dust in the atmosphere and would start the eruption of the hundred or so volcanoes in Dancalia, Earth's most unstable region
- Such volcanoes, partly covered at that time by salt water, would produce blood red pumices, falling partly over Indian Ocean (called Red Sea for this reason) partly over Ethiopia
- Monsoon would wash pumices into Nile, leading to the chain of events known as the Ten Plagues

Phaethon explosion

- After getting close to Earth by spiralling, Phaethon had a fragmentation episode seen by Moses when he was blocked in Pi Hahiot between Egyptian army and mountains, his road blocked by rockfall
- It enters atmosphere over Mediterranean, fires palaces of Crete and forests of Central Europe, and explodes over Eider in northern Germany
- After an earthquake, an atmospheric wave follows, as a fast hot wind, generating tsunamis in Mediterranean, Red Sea and Atlantic

Phaethon moved from Yemen to Danemark passing over Dead Sea



Satellite photo of Eider region in Schleswig Holstein, Germany



Delta, Sinai, Dead Sea, northern Red Sea from satellite



NUWEIBA O PIHAHIROT



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Some notes on Nuweiba

- In the north side a road exists between sea and mountains, as described in Josephus
- The wadis in the plain can be canalized becoming small ports
- Moses probably arrived from Wadi Watir
- The sea in front of Nuweiba is shallow. A Karolinskaia Institut expedition found unexpected corals of special shape. A submarine bridge would let the sea appear as divided if its level would go down a few meters

Dancalian volcanoes in front of Yemen would affect Ethiopia, Indian Ocean



Calculation of effects of Phaethon explosion

- Phaethon explosion is a super Tunguska event. Possibly one million MT versus 500
- Effects of atmospheric wave and generated tsunamis can be calculated in principle, albeit this is a very complex problem requiring huge calculations and many data
- Calculation parameters involve energy and height of the explosion
- Calculation interesting in relation to possible impact on Earth of Apophis, circa 2025

The second catastrophe: the biblical Flood

- The second catastrophe is certainly the biblical flood, where Noah survives on mount Judi in Armenia, about 30 km south of Ararat, in Turkey, date about 3161-3171 AC
- The same Flood appears in other traditions, with different survivors, e.g. Utnapishtim or Manu. According to Talmud many boats were built, some survived the event, most were destroyed, the event being expected, also for the many earthquakes. Noah visited Enoch "in sky" (in Garden of Eden?, now Hunza valley)

Other survivors

- In Sumerian and Akkadian traditions the survivor is Ziusudra or Utnapishtim; he was visited about 2500 BC by Gilgamesh, on mount Nimush, now the Anye-machen range, in Tibet, sacred to the Ngolok, surrounded by river Maqu, a Sumerian name for the Yellow River !
- According to Avesta a survivor is Manu, probably the Mannu of Germans. He survived in a cave on the top of Montisola in lake Iseo or Siviano. Ancient local names suggest contacts with India via Red Sea, Wadi Hammamat, Nile, Mediterranean, Po and river Siviano=Oglio

Mount Judi lies where borders join of Armenia, Iran, Turkey



Causes of second catastrophe

- The second catastrophe was due to an event possibly unique in the history of Universe, not to be repeated, says the Bible
- It was characterized by arrival of water from the depths of the high and of the low
- There is a hypothesis that the cause was the close passage of Mars, which lost its oceans and its core, that became planet Mercury. The length of the year changed from 360 to 365 days. This event is hinted by an enigmatic passage in Plutarch, and...

Lesser catastrophes

- Following Herodotus and Pomponius Mela twice Sun rose in the east and twice in the west; and this implied no changes in climate and no special morbidity
- The Koran praises the God of Orient and of Occidents, in a sura always interpreted as poetic utterance
- The above can be explained by three inversions of the rotational momentum of Earth. Such inversions may or may not also involve inversion of the stellar vault

Causes for change in rotation axis

- A few degrees variation of the axis angle towards ecliptic can follow an asteroid impact, whose velocity vector points not too close to the Earth center, see Barbiero using gyroscope theory
- Same effect can follow a close passage of a large body, see Baltensperger and Woelfli

The inversion case

- A variation only of sign and not direction of the angular rotational velocity vector keeps the equatorial bulge, reducing the consequences of the event. Perhaps only “silent earthquakes” would take place.
- Spedicato shows existence of 2 or 4 states with same total energy and total angular momentum, by considering both rotation and revolution, via Kepler’s third law. One state is close to present one and might be reached by a small input.

Effects of the inversion

- Distance Earth-Sun changes about one thousandth, hence received solar energy one millionth: undetectable!
- Day's length changes about 8 minutes, detectable possibly at circadian level
- Number of days in one year would change from 365 to 363, implying the need to correct the calendar, i.e. to establish the solstitial or equinoctial days

If there have been inversions, when?

- Signs of an inversion taking place: strange movements in celestial bodies, and possible modest tsunamis
- Possibly one inversion at end of Indus-Sarasvati civilization, circa 2000 BC, when megalithic monuments underwent modifications
- A second one in 1407 BC, time of Ogyges flood, when Sun “stopped at order of Joshua”, 40 years after Exodus
- A third one circa 700 AC, when many calendars were changed (Numa Pompilius...)

Catastrophes in last 2000 years

- The greatest about 546 AD, when several comets were seen and a few probably crashed, especially in Arabia, destroying the tribes of Aad and Thamud. There was the devastating plague of Justinian. A volcano exploded, separating Java and Sumatra, and becoming Krakatoa
- The last one in 1178 when probably fragments of an asteroid, whose core had hit Moon, hit Pacific Ocean leading to social discontinuities, migrations, fires in New Zealand forests...

When the next one??

- Impacts with comets, Apollos and other bodies always possible
- Close passages of large objects from Kuiper region also possible
- Asteroid Apophis, about 400 m diameter, in about 20 years may hit Earth with the energy of over 10.000 megatons, or will pass very close.