

Catastrophes: from Atlantis to the Aegean

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Summary:

This discussion compares the popular-academic rationalisation of Plato's Atlantis as a fictional memory of the Thera-Santorini eruption with the alternative based on a stricter adherence to the internal evidence of the narratives. It also posits that the ultimate source is Libyan-Egyptian rather than Greek and that any solution must also comply with the additional semi-historical information supplied by Diodorus Siculus in his Histories. This is taken together with an analysis of the known geological and climate events of prehistory as compared to those suggested in the narratives.



The Athens Acropolis and Mount Lycabettus were occupied at least 6,000 years ago during the Greek Neolithic. Picture from: www.athensgrecenow.com

Modern commentators who discuss Plato's Atlantis and its demise will typically fall into two camps. The first would be the scholars of Greek literature and others that follow their lead, who prefer to retain the story within the realm of Greek mythology; they would treat it as Plato's literary fiction based solely upon his own philosophy and knowledge of the ancient world. Typically such commentators rationalise Atlantis as a hazy memory of ancient Crete or of the Thera (Santorini) eruption and tsunami that destroyed the city of Akrotiri on that island. However, this supposition ignores many internal statements of the narratives and neglects the additional details about Atlantians given by Diodorus Siculus. The hypothesis has become a regular feature in various much-repeated television series linking Atlantis and ancient Cretan civilization.

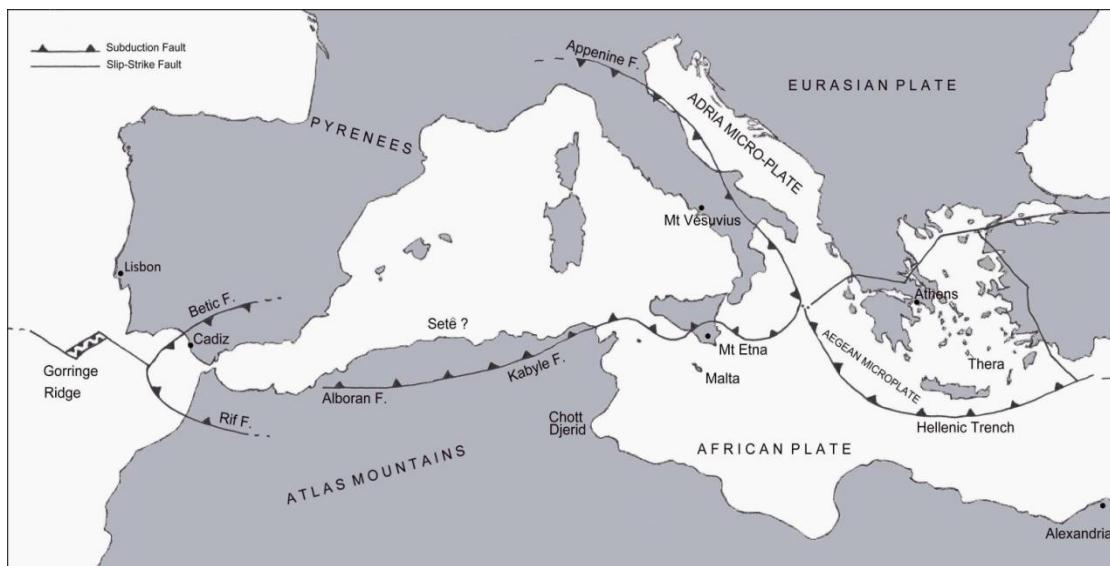
The second group of commentators are the diverse popular enthusiasts, who would seek to locate the lost city in a variety of places, from the Caribbean to the poles, selecting only those elements from Plato that they need and discarding the rest. Many of these also neglect Diodorus Siculus.

There is a reasonable third approach: which is to consider Plato's account for the most-part truthful and to analyse Atlantis and its catastrophe as a degraded history of ancient events; preserved in Egypt, and brought back to Greece by the sage Solon in the sixth century BC just as Plato says. Any proposed solution must therefore respect all the details of the ancient story that we have inherited from Solon's Egyptian source: Sonchis of Saïs. It is then possible to compare the legend with Egyptian rather than Greek tradition; and with the wider tradition of North Africa as I did in *Towers of Atlantis* and earlier books. This would transfer tenure of the story away from Greek scholarship to the Egyptologists – but these specialist-archaeologists don't want it! They would shy away from being tainted by speculation about Atlantis.

Those who regard Atlantis as Plato's fiction seldom look beyond the [Thera eruption](#) of c.1625. For this to work they have to discard the fabulously long chronology supposedly given to Solon by the Egyptian priest; indeed his estimate of 9,000 years before his own time merely reinforces their scepticism as there is scant evidence of settlements in Greece from such an early date. Plato's timescale therefore has to be reduced by a factor of ten to make it credible. Another argument employed is that Plato's references to bronze would mean that Atlantis could not be older than the Bronze Age. However, as I argued in [Towers of Atlantis](#) the date of the Bronze Age itself is constantly being pushed further back in time by archaeological discoveries and is now set as early as 3200 BC for the Aegean. Those who wish to pursue the historiography may like to read the [classic paper](#) of 1960 by A.G. Gallanopoulos, which discussed the original excavations of Professor Marinatos, along with a survey of ancient Greek tsunami references that retain their relevance.

The true dating indicators within Plato's narratives are the statements that Atlantis and its catastrophe fell before the establishment of the [Temple of Neit](#) and its institutions at Saïs in the Egyptian Delta. In *Timaeus* the priest puts the foundation of Saïs at 8,000 years before his own time and that of Athens 1,000 years earlier; in *Critias* he says that 9,000 years had elapsed. This association would place the events right at the foundation of Dynastic Egypt, around 3100 BC or during the earlier predynastic era – and therefore at least 1500 years earlier than the Thera eruption. Those unfamiliar with the Egyptian goddess [Neit](#) may like to read these [links](#):

Neit was a war goddess of probable Libyan origins equivalent to Greek Athene. The religion of Neit was at its strongest during the First Dynasty after the unification of Upper and Lower Egypt. Egyptologists find the *mastaba* tombs of the First Dynasty kings – and also their queens who bore titles derived from the goddess Neit. It follows logically that if the Temple of Neit was established in the delta as long ago as the First Dynasty then we cannot set the era of Atlantis, or the catastrophe that destroyed it, any later than this date. The long-chronology, stated by Sonchis to Solon to derive from "sacred records", can then be seen as entirely consistent with the long-reigns of gods and demi-gods whom the Egyptians believed had ruled the Nile valley prior to the dynasties of mortal kings. [see Note 1] It is therefore relevant to seek a geological catastrophe that could sink an island or a city from a time before the establishment of the First Dynasty – the late fourth millennium BC.



A tectonic puzzle! The Mediterranean Sea is a seismically complex region with numerous fault lines, some of which are ancient and inactive. Shown here, for simplicity, are just the principal active subduction faults or crumple zones together with the normal faults where sideslip may occur. It is possible that a mega-quake in one region such as the Atlantic could trigger other events further east along this line of activity.

Another internal detail is that the submergence of the city and its island corresponded with great earthquakes in Greece that destroyed ancient Athens and its armies – who had just fought-off an attack by Atlantians from the west. We may ask: what links Greece and the Atlantic Ocean? The obvious connection is the geological fault that runs from the Azores in mid-Atlantic through the Strait of Gibraltar, onward to Malta and Sicily in the central Mediterranean and then to the Aegean Sea. The

geologists tell us that this is where the African continental plate is being subducted beneath the vast Eurasian plate; and the Aegean micro-plate is all that remains of the ancient Tethys Ocean that separated them. Subduction zones and their volcanoes are the most unstable regions on the planet; where earthquakes tend to be at their greatest magnitude, but occur only after deceptively long intervals of apparent stability.

Before we examine the geology, we should also review the parallel chronicle offered by Diodorus Siculus, who also tells us about *Atlantians* (a slightly different spelling but clearly related) and who possessed great cities. He goes-on to describe a matriarchal race called the Amazons, who similarly worshipped the goddess Neit-Athene; they conquered an Atlantian city named *Cernê* situated somewhere along the Libyan (North African) coast. The city of the Libyan Amazons was called Cherronesus ('peninsula') and it lay in the *marsh Tritonis*; generally identified with low-lying Chotts of Tunisia, but no-one really knows where it was. At some later time this city too was submerged in a time of great earthquakes:

“...the marsh Tritonis disappeared from sight in the course of an earthquake, when those parts of it which lay towards the ocean were torn asunder”. [Note 2]

It is then logical to ask whether this remembers the same geological event that is recalled in the Atlantis legend. Plato, in *Timaeus* also says: “later... [there came] earthquakes and floods of extraordinary violence”. If we treat Atlantis as an Egyptian rather than a Greek history then we have here two independent accounts, both ultimately of north-African derivation, that recall: *Atlantians*, the goddess Neit-Athene, a catastrophic submergence and a great earthquake. Too many coincidences here to just ignore!

It is sometimes forgotten that we have very few ways of dating ancient earthquakes and volcanic eruptions unless there is a historical report. For example archaeologists still argue about the true date of the Thera eruption – some want to place it around 1500 BC; others following carbon-14 and tree-ring dating prefer 1600-1645 BC. For ancient earthquakes we can say even less; even if there is some artefact to be carbon-dated, the magnitude of an ancient quake can be only subjective specialist opinion. Some idea of the difficulties can be gained from the [significant earthquakes database](#), [1]

To attempt a dating of the earthquakes recalled by Diodorus is therefore problematic; the specialists will only trust a firm historical report, whereas the historical investigator wants the geologist to suggest a date. From the wording we can see that the ancient earthquake was no minor episode; Diodorus recalls that low-lying regions towards the Ocean were “torn asunder”. This sounds very much like a mega-quake (magnitude 8.5 or greater) of the kind expected along a subduction zone, resembling those experienced more recently in Alaska and Chile. Diodorus Siculus or his lost source could not have known that two thousand years later geologists would discover that the Algerian coast was a mountain-building subduction zone, in order to invent a ‘mythical’ ancient catastrophe in just the right location. This kind of coincidence is what I have elsewhere termed a ‘mythological fossil’: an element within a myth that can be extracted and independently tested by science. Somewhere along the Mediterranean coast between Tunisia and Morocco there may be two lost cities waiting to be discovered, but precisely where cannot be discerned from the vague geography of Diodorus! It should be noted that neither of these lost cities would be Atlantis – that was somewhere else.

To commence at the western-end of the line of faults, in the Atlantic Ocean, we find the islands of the Azores; for so long naively claimed as the peaks of the sunken continent. We can now see these mid-ocean islands as a volcanic product of the transform fault that links the mid-Atlantic ridge of sea floor spreading to the subduction zone of Iberia-Africa. The nature of the fault therefore changes around the region of the Gorringe Ridge to the west of Cape St Vincent, where we find flat-topped seamounts that were formerly volcanic islands. Reliable evidence, of precisely when they were above the sea is still unavailable. Where oceanic plates of equal density collide they tend to push-up volcanic island chains and one day the ridge will become a new peninsula of Iberia.

North Africa

East of the [Gorringe Bank](#) the fault splits, with one active branch running north-east across the Sierra Nevada of southern Spain while the other continues through Morocco. Here we may hope to find more evidence of ancient earthquakes. Perhaps the various ancient legends surrounding the Pillars of Heracles do remember a series of real quakes that altered the coastline. The true active fault zone

continues along the North African coast: through Morocco-Algeria-Tunisia. The largest documented earthquake here was that at magnitude-7, which occurred on 10 October 1980. [2] This is far from the worst to be expected of a subduction zone and those recorded further east in Tunisia tend to be of lesser magnitude. [3]

A catalogue of early historical earthquakes in Algeria lists one that occurred in Setif in 419 AD, magnitude unknown, but severe enough to be recorded. [4] Early historical quakes are recorded in Tunisia around 412 AD. A specialist dare not, of course, cite the legendary account of Diodorus Siculus or his lost source Dionysius as 'evidence'. Presumably Dionysius was citing historical sources in the Great Library of Alexandria. For comparison, Old Alexandria itself was lost to the sea following the earthquake and tsunami of 365 AD (estimated magnitude 8.5 off Crete). An account of this tsunami and its effects are given by the Roman historian Ammianus Marcellinus:

The same tsunami may have been responsible for the inundation of Roman Neapolis in Tunisia. It is therefore not unreasonable to hold that even older settlements have been lost to ancient quakes further west along the coast of Africa.

Iberia

The Gorrige Ridge is believed to be the epicentre of the great Lisbon earthquake of 1755 that destroyed the colonial economy of Portugal, if not quite the city itself. Recent estimates rate the magnitude as no more than 8.5 – not quite the maximum 9.0 associated with a true subduction zone. An excellent account of the Lisbon earthquake, leading to numerous references, is given at the Volcano Café website.

Plato quite clearly locates his lost island and its city in the Atlantic Ocean beyond the Strait of Gibraltar, but we shall not pursue that thread here. The evidence of Diodorus, from a completely independent source, would mitigate any suggestion that it was Plato alone who gave the Atlantic Ocean and its inhabitants a fictional name. Why has conventional scholarship neglected this corroborating evidence from Diodorus? Perhaps because he offers us mythology derived from unfashionable African sources, which attempts to rationalise the 'pure' Classical myths taught in schools and universities.

Elsewhere in his histories, Diodorus offers a rationalised summary of the legend of Heracles and his voyage to the west. This is Heracles the man, not yet the god! The hero's legendary voyage and labours were a later event than the war between the Atlantians and the Libyan Amazons. [Note 3] It is apparent from this narrative that Heracles set up his legendary pillars at what we now know as the Gibraltar Strait; and his voyages continued further west into the Atlantic, to Gades (modern Cadiz in Andalucía) and north into Gaul. This independent source contradicts any suggestion that Plato or Solon did not know where the legendary pillars were situated.

Plato and his source are consistent that the lost city was situated outside the straits and this has led some commentators to link it with another legendary Bronze Age lost city named Tartessos; believed to lie beneath the low-lying marshland between Cadiz and Seville, where silver has been mined since ancient times. A lost city here there may have been, but similar arguments may be advanced against this identification as apply for Thera and Akrotiri; It fails to meet the Atlantis description both in date and geography. The Andalusian coast is subject to the same geological influences as were discussed for the Lisbon earthquake.

The onshore record suggests a major tsunami in the Gulf of Cadiz around 4,000 years ago, with perhaps as many as eight over the last 7,000 years. [5] We should also consider the effect of tsunamis created by underwater landslides. These may be triggered at any time by forces not necessarily associated with major earthquakes. In addition to the 1755 tsunami earlier underwater mud-flows (turbidites) are dated to 218 BC, **3010–3960 BC** and 7765–8065 BC. [6]

It is conceivable that the legendary report of Diodorus recalls an underwater landslide event of the fourth millennium BC – but to accept an earthquake/tsunami solution here for the Atlantis 'quake' would require a mechanism to transmit its effects within the Mediterranean as far as Tunisia and Greece.

Malta and Sicily

Pivotal within the central Mediterranean is the position of Malta. Nothing from the Platonic tradition connects the islands to Atlantis, but the central Mediterranean too has been suggested as a location of the sunken island. [7] It is easier to associate Malta with the tradition of Diodorus than of Plato. The Libyan Amazons originally came from an island too, identified as having a volcano. The only large island in this area that is home to a volcano is Sicily. We may consider whether Malta and Sicily were once linked, politically if not physically. It is also relevant that the temple-building period on Malta (c3500-2500 BC) predates the establishment of Dynastic Egypt.

The zone of faulting takes a loop offshore north of Tunisia, passing through Sicily and around the shores of the Adriatic Sea forming the Adria micro-plate. Although we find in Italy a zone of frequent earthquakes and volcanism, these are not the ‘mega-quakes’ that occur along subduction faults. Although locally destructive, they are not usually powerful enough to generate tsunamis or the widespread destruction that was associated with, for example, the Lisbon or Cretan earthquakes. In this region it is the volcanoes that present the true danger.

In a recent investigation of sea level changes around Malta by Furlani-et-al, the specialists conclude that the island has been ‘stable’ since the Ice Age and follows the predicted eustatic sea-level curves. They see no need to invoke local isostatic or tectonic movements that specialist researchers employ to rescue divergence from the expected eustasy. [8] The study cites the sea level curve of Lambeck-et-al (2011) for the Mediterranean Sea; indeed they conclude that this region has been tectonically stable for some 125,000 years! [9] However, when we find such reliance on sea-level modelling we should be cautious, for this is adding a new wing to a castle already built on sand. No-one really knows how big the Pleistocene ice-caps were; no-one knows for certain how much sea-ice melted, or why the ice sheets melted; or why they formed in the first place. It’s all cumulative academic opinion served-up as proven fact.

Nevertheless, the specialist view remains that the central Mediterranean has been stable throughout the Holocene. No sunken Atlantis here and no source of mega-quakes either. However, geologists thought the same about Cascadia – another supposedly stable subduction zone – until evidence of the 1700 tsunami was found along the Canadian coast. The central Mediterranean too, could be a potential site of subduction mega-quakes – but the specialists offer no evidence that they occurred in our timeframe.

The largest documented earthquake and tsunami in this region was the magnitude-7 quake at Taormina, Sicily in 1908, identified as slip along a normal fault rather than subduction.

However, we must again note that despite its severe local effects, the Taormina quake did not result in sinking or liquefaction on neighbouring islands, such as Malta and Gozo, nor on Sicily; a more powerful event is needed to match the description given by Diodorus.

Greece and the Aegean Sea

According to Plato, it was during the era of Atlantis that the ground subsided away from around the Acropolis, leaving the rocky outcrop that we know today. Archaeologists find little early archaeology on that site, other than Neolithic pottery around the Klepsydra spring; but a few shards of pottery do not a city make! Perhaps, one day, we may find the remains of an ancient city; and the soldiers, who “sank into the earth” at the same time as Atlantis was swallowed by the sea. The Egyptian priest states that Athens was founded before Saïs (an apocryphal thousand years earlier according to the *Timaeus*). Plato’s description is informative here: Greece had not yet become “the bones of the wasted body” as it is described in the *Critias*. We may ask if there is any archaeological or other scientific evidence to confirm the date of this geological and climate transition.

Greece and the Aegean micro-plate are such a seismically active zone that no-one can doubt that earthquakes and tsunamis have been a regular occurrence as far back as we wish to look. However, to attach a date or magnitude to any specific quake is much more difficult; to link any one of them to a legendary catastrophe is even more problematic. There are so many Greek legends about floods that it would be fruitless to pursue them all here (see Gallanopoulos above). Plato’s own description mentions three ancient floods that washed away the soil from around the Acropolis.

An interesting summary-analysis of the Acropolis mound is given by geologist Callan Bentley. He remarks that: “*The hill used to be larger, but is being nibbled away over time from the sides. It’s an erosional remnant of a much larger thrust sheet*”, but precise dating of these collapses is something that we must await.

Plato’s narratives do offer us other clues. The most useful dating indicator is his description of the former temperate climate of Greece. Plato describes: “*the happy temperament of the seasons*” [Jowett translation]. Again, in *Critias* we find: “*the soil benefited from an annual rainfall which did not run to waste off the bare earth as it does today*” [Desmond Lee translation]. This description corresponds best with what we know of the mid-Holocene climate of Europe, which climatologists coincidentally term the Atlantic pollen zone. This name has nothing to do with Plato, but is due to its oceanic characteristics of warm summers and cool winters, without extremes of temperature. For Europe, the transition to the more extreme Sub-Boreal period is placed loosely around 3000 BC. We may note again the synchronism with the emergence of the Nile delta and the establishment of Neit’s temple at Saïs, concurrent with the First Dynasty of Egypt.

Pollen evidence reveals the initial stages of agriculture on the northern Thessaly plain from the early Neolithic, extending eventually to the entire plain. [10] A further dating indicator is that we also know there were people disturbing the natural flora. Plato describes hill-tops covered with trees that were cut down in ancient times to roof buildings that were still standing in his own day. In cores taken from the former Lake Viviis in eastern Thessaly the history of the vegetational sequences has been determined. The specialists detect the earliest signs of Neolithic agriculture, which decreased during the early Bronze Age and recovered from the Late Bronze Age onwards. Another recent thesis suggests a similar sequence on the Peloponnese, signifying a wet-dry transition between 5300 BP and 4700 BP [11] Together with the changes in pollen signature, this climate transition confirms the late fourth millennium BC as the era that best fits Plato’s description.

We may find numerous indicators worldwide of climate and sea-level change converging around this date. The mid-Holocene corresponds to the period when the Sahara region turned from a grassy savannah to desert conditions. Although some investigators try hard to turn this wet-to-dry transition into a gradual process determined by the Earth’s orbit (‘orbital forcing’) others are clear that the transition was more rapid.

The onset of desert conditions in the Sahara has been determined by cores from the sea-bed off Mauretania. [12] Here it may be shown that the annual deposition of wind-blown desert sand was interrupted between the close of the Ice Age and the mid-Holocene. This is termed the African Humid Period, when the Sahara region was vegetated and could sustain large lakes. The study finds that marine sediments lack the temporal resolution to precisely date the onset of desert conditions to within a century; they pin it down to four centuries around 5490±190 BP. One may note (as with many such studies) that the co-authors only dare speak in terms of *gradual* causes; concluding that it occurred when summer insolation crossed a threshold of 4.2% greater than present, thus reducing the effect of the African monsoons.

We may note from the account of the Libyan Amazons’ conquests as given by Diodorus that he tells of their defeated enemies taking refuge in a forested region. This offers a clue that we are looking at events from before the dry desert climate set-in and before the displaced Libyan tribes sought refuge in the Nile valley and delta. This would be contemporary with the temples of Malta and the civilisation of the megalith builders along the Atlantic coast. We may have a glimpse here of predynastic Egypt and its Libyan neighbours. This era, we are told, was contemporary with the Atlantian cities in North Africa.

We should perhaps also note the negative dating indicator regarding Thera-Akrotiri. Plato does not mention a volcano. Although the Thera eruption was one of the largest of historical times and despite the tsunami that it triggered, no firm evidence can be cited here that it caused major earthquakes or subsidence on mainland Greece. Even if such were to be found, the pollen evidence noted above suggests that the modern agricultural conditions on the peninsula were already in place long before this Bronze Age eruption.

Conclusions

When we follow strictly the text of *Timaeus* and *Critias* and look to cross-disciplinary evidence then the conventional rationalization fails us; it only works if you deem the story to be Plato's own fiction. Scholars of Greek and archaeologists who argue in favour of Thera/Akrotiri have to selectively ignore the absence of climate changes on the Greek mainland at the same era, as well as turning a blind-eye to the synchronism with the foundation of Neit's temple. Both of these indicators suggest a date much earlier: in the mid-Holocene: the Atlantic – Sub-Boreal transition, the mid-Neolithic, or whichever label you prefer to assign it.

The Thera-Santorini-Akrotiri solution for Atlantis that is used as a safe non-controversial explanation simply does not fit the internal evidence of the narratives and comes no closer than some of the ideas promoted by popular enthusiasts; its only saving grace are the academic credentials of those who adhere to it, who might claim to be somehow more qualified or knowledgeable than the rest of us. Not only does the Thera explanation ignore the indicators of date but neither does it fit the geographical description. A city may indeed have been destroyed at Akrotiri, or on Crete, but where is the huge island-continent described by Plato; where is the vast rectangular plain and the canals; and how does it tally with a location beyond the Pillars of Heracles?

It must also be noted that the strongest documented modern quakes, such as the 1755 Lisbon event, did not trigger mega-quakes along neighbouring faults, or sea-level changes within the wider Mediterranean. Still less can they explain how an earthquake or volcanic event could trigger a permanent climate transition in North Africa and Europe. The inference must be that whatever happened around the mid-Holocene was an exceptional event of a much greater scale than a magnitude-9 earthquake. Remember, it is the ancient source itself that links the Atlantis story with a catastrophe from the heavens – it is not some speculative creation of modern authors.

This author's recommendation therefore stands. Whenever you find a conflict between the opinion of a modern expert and that given in an ancient text then you should always prefer the source closest to the events. Trust in your most ancient historical source: Plato – or should that be: Sonchis of Saïs?

Notes:

1) The long reigns of the Egyptian gods are found along with the chronicle of Manetho that forms the basis of modern Egyptian chronology; and which gives a total for reigns of gods, demigods, and spirits of the dead covering 24,925 years prior to the dynasties of kings. It is likely that the priests of Saïs followed a similar sacred chronology and therefore included part of this within the Atlantis date.

2) Diodorus Siculus, *Library of History*, Book III. 52-55. Diodorus is careful not to confuse the Libyan Amazons with the Amazons of Asia Minor who flourished later, a generation before the Trojan War. Be careful! For, we don't know with certainty the era of the Trojan War either. It is another instance of cumulative academic opinion that has morphed into fact.

3) Diodorus Siculus, *Library of History*, Book IV. 18. 1-7. Diodorus tries to align the Greek and Egyptian legends about Heracles and his pillars but creates only more confusion for us. He says that there was both an earlier and a later Heracles, whose achievements have become amalgamated over time. Diodorus says (in Book III. 7.55) that Heracles entirely destroyed the Libyan Amazons on his way west to the straits to set-up his pillars; and further relates that Heracles in doing so built out into the sea to narrow the straits.

Relevant Hyperlinks

- <https://www.sciencedirect.com/science/article/abs/pii/0025322784900227>
- <https://www.ancient.eu/Neith/>
- <https://www.ancient-origins.net/ancient-places-africa/pharaonic-royal-city-sais-leaves-few-clues-researchers-002352>
- <https://www.ngdc.noaa.gov/nndc/struts/form?t=101650&s=1&d=1>
- http://www.tertullian.org/fathers/ammianus_26_book26.htm#C9
- <https://www.volcanocafe.org/the-lisbon-earthquake/>
- <https://www.ancient-origins.net/news-history-archaeology/2500-year-old-city-buried-under-flood-sediment-may-belong-lost-civilization-020521>
- <https://www.nature.com/articles/s41598-019-42915-2.pdf>
- <https://core.ac.uk/download/pdf/37834907.pdf>
- <https://blogs.agu.org/mountainbeltway/2015/01/17/geology-acropolis/>

<https://www.third-millennium.co.uk/towers-of-atlantis-2>
<https://www.third-millennium.co.uk/submerged-islands-gibraltar-strait>
[https://en.wikipedia.org/wiki/Atlantic_\(period\)](https://en.wikipedia.org/wiki/Atlantic_(period))
<https://en.wikipedia.org/wiki/Subboreal>
https://www.ncei.noaa.gov/sites/default/files/2021-11/5%20End%20of%20the%20African%20Humid%20Period%20-Final_OCT%202021.pdf
[https://www.ncdc.noaa.gov/abrupt-climate-change/End of the African Humid Period](https://www.ncdc.noaa.gov/abrupt-climate-change/End%20of%20the%20African%20Humid%20Period)

References:

- 1) National Geophysical Data Center / World Data Service (NGDC/WDS): Significant Earthquake Database. National Geophysical Data Center, NOAA. doi:10.7289/V5TD9V7K
<https://data.noaa.gov//metaview/page?xml=NOAA/NESDIS/NGDC/MGG/Hazards/iso/xml/G012153.xml&view=get DataView&header=none>
- 2) <https://www.worlddata.info/africa/algeria/earthquakes.php>
- 3) Ambraseys, N. N. The Seismicity of Tunis. *Annals of Geophysics*, [S.I.], v. 15, n. 2-3, p. 233-244, Nov. 1962. ISSN 2037-416X. Available at: <https://www.annalsofgeophysics.eu/index.php/annals/article/view/5431>
- 4) Benouar, Djillali. (1994). Materials for the investigation of The Seismicity Of Algeria and Adjacent Regions during the twentieth century. *Annals of Geophysics*. XXXVII. 10.4401/ag-4466.
https://www.researchgate.net/publication/50300644_Materials_for_the_investigation_of_The_Seismicity_Of_Algeria_And_Adjacent_Regions_during_the_twentieth_century
- 5) Koster, Benjamin & Reichert, Klaus. (2014). Sedimentological and geophysical properties of a ca. 4000-year-old tsunami deposit in southern Spain. *Sedimentary Geology*. 314. 1-16. 10.1016/j.sedgeo.2014.09.006.
https://www.researchgate.net/publication/266677764_Sedimentological_and_geophysical_properties_of_a_ca_4000_year_old_tsunami_deposit_in_southern_Spain
- 6) Garcia, E. et al (2010) Holocene earthquake record offshore Portugal (SW Iberia): testing turbidite paleoseismology in a slow-convergence margin. E. Garcia et al, *Quaternary Science Reviews* 29, 1156–1172
https://www.academia.edu/2336662/Holocene_earthquake_record_offshore_Portugal_SW_Iberia_testing_turbidite_paleoseismology_in_a_slow-convergence_margin
- 7) <http://atlantipedia.ie/samples/tag/anton-mifsud/>
<http://atlantipedia.ie/samples/mifsud-dr-anton/>
- 8) Furlani, Stefano & Antonioli, Fabrizio & Biolchi, Sara & Gambin, Timmy & Gauci, Ritienne & Lo Presti, Valeria & Anzidei, Marco & Devoto, Stefano & Palombo, Maria Rita & Sulli, Attilio. (2012). Holocene sea level change in Malta. *Quaternary International*. 288. 146-157. 10.1016/j.quaint.2012.02.038.
https://www.researchgate.net/publication/235606249_Holocene_sea_level_change_in_Malta
- 9) Lambeck, K. & Antonioli, Fabrizio & Vulcanologia, Istituto & CNT, Sezione & Roma, & Italia, & Ferranti, Luigi & Leoni, Gabriele & Scicchitano, Giovanni & Silenzi, S. (2011). Sea level change along the Italian Coast during the Holocene projections for the future. *Quaternary International*. 10.1016/j.quaint.2010.04.026.
https://www.researchgate.net/publication/48329976_Sea_level_change_along_the_Italian_Coast_during_the_Holocene_projections_for_the_future
- 10) Bottema, Sytze, (1979) Pollen Analytical investigations in Thessaly, Greece; *Paleohistoria* 21,
<https://ugp.rug.nl/Paleohistoria/article/view/24996/22455>
- 11) Andwinge, Maria, Masters Thesis (2014) Reading Pollen records at Peloponnese, Greece, Stockholm University.
<https://www.semanticscholar.org/paper/Reading-Pollen-Records-at-Peloponnese%2C-Greece-Andwinge/7c7dce1e57026e8816f36021d6cb7fa989175050>
- 12) Garcia, E. et al (2010) Holocene earthquake record offshore Portugal (SW Iberia): testing turbidite paleoseismology in a slow-convergence margin, *Quaternary Science Reviews*, 29 (2010) 1156–1172
https://www.academia.edu/2336662/Holocene_earthquake_record_offshore_Portugal_SW_Iberia_testing_turbidite_paleoseismology_in_a_slow-convergence_margin

Tags: Atlantis, Gorrige, catastrophism, sea-levels, ancient climate, ice ages, tsunami, earthquakes, Mediterranean, Plato, Acropolis, flood myths, pole shift

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