

## Plato and the seismic catastrophe in the 12<sup>th</sup> century B.C. Athens

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### Abstract

Plato, who lived in the 4<sup>th</sup> century B.C., wrote the dialogue *Timaeos* and *Critias* when he was 52 years old. In this he describes a catastrophe in Athens from an earthquake in the presence of excessive rain. He also describes several details, not visible in his century, in the Acropolis of Athens. These details are a spring and architectural details of buildings in which the warriors used to live. In *Critias* he mentions that the destruction of the spring was caused by earthquakes. He also refers to the catastrophe of *Atlantis* with Athenian warriors *possibly* on it by earthquakes and the sinking of the land by floods. The time of the catastrophe of *Atlantis* was not defined by him but it is implied that it occurred after the assault of the *Atlantes* in the Mediterranean. Archaeological excavations confirmed the existence of the spring which was about 25 m deep with respect to the present day walking level. Dated ceramics found at its bottom denote the last function of the spring to be in the early 12<sup>th</sup> century B.C. As Plato describes the warriors' settlements were found outside the fortification wall in the North East of the Acropolis. The philosopher, who was not a historian, describes a general catastrophe in Greece from which the Greek language survived till his century. Archaeological studies have offered a variety of tablets of Linear B writings which turn out to be the non-alphabetic type of writing of the Greeks up to the 12<sup>th</sup> century B.C. before the dark ages commence. Archaeological excavations proved that the illiterate Greeks were speaking Greek before they turned to the alphabetic period in about the 10<sup>th</sup>-9<sup>th</sup> century B.C. Modern geoarchaeological and palaeoseismological studies prove that seismic storms occurred in the East Mediterranean between 1225 and 1175 B.C. The result of a fifty-year period of earthquakes was the catastrophe of many late Bronze Age palaces or settlements. For some analysts both *Athens* and *Atlantis* presented in *Timaeos* and *Critias* are *imaginary entities*. They maintained that the imaginary conflict between *Athens* and *Atlantis* served Plato to produce the first world's "science fiction" and gave the Athenians an anti-imperialistic lesson through his fabricated myth. However, a part of this "science fiction", *Athens of Critias*, is proved a reality of the 12<sup>th</sup> century B.C., described *only* by Plato and *not* by historians, such as Herodotus, Thucydides and others. Analysts of the past have mixed Plato's *fabricated Athens* presented in his dialogue *Republic* with the *non-fabricated Athens* of his dialogue *Critias*. This serious error has deflected researchers from their target to interpret Plato's text efficiently.

## 1. Introduction

Plato at Critias is very specific when he presents the Acropolis of Athens. He describes several architectural elements and a particular spring. He is very clear mentioning an earthquake as the cause of the catastrophe of the spring. Apart of this, isolated event in Athens, he describes a general catastrophe in prehistoric Greece which made its people illiterate. He added the detail of giving Greek names to their off-springs. Undoubtedly he does not know when these events took place. He has the impression that all events are as old as the Egyptian priesthood mentioned to Solon. In other words he connects the assault of the *Atlantes*, the catastrophe of Athens and Greece at a remote time thousands of years before Solon's 6<sup>th</sup> century B.C. Let us analyze the data and examine all the relevant passages in detail from his dialogues carefully versus the existing past scientific data.

## 2. Plato's confirmed passages I

### 2.1 Details of prehistoric Athens and its catastrophe

Many analysts of Plato's text in relation to *Atlantis* in the past (Ramage, Fears, Luce and Fredericks, 1978), (Gill, Forsyth-Gordon, 1980) and Vidal-Naquet, 2005) although recognized that Plato in the Republic did indeed present a fabricated myth of prehistoric Athens they did not manage to recognize that in Timaeos and Critias he presented a non-fabricated myth of the prehistoric Athens of the 12<sup>th</sup> century B.C. The date is obtained from Plato's unique and detailed description of that past Athens. It is highly astonishing because the evidence existed in front of their eyes. They could receive it from Kavadias' (1897), Broneer's (1939, 1948) and Carpenter's (1966) excellent studies. Vidal-Naquet (2005) who was a historian could not understand that Plato played in fact the role of a historian once too, offering unique information, without being able to reach ever the level of the enthusiastic Herodotus or even of the strict and careful Thucydides and the rest of the professional historians. Plato had a genuine interest in prehistory and he expressed it ignoring fully both Herodotus in connection with prehistoric Athens and the world affairs of the 12<sup>th</sup> century B.C. Vidal-Naquet's model of *imaginary Athens* conflicting with the *imaginary anti-Athens*, in other words *Atlantis*, it does not work at all. Athens of Timaeos and Critias was a proved archaeological reality of the 12<sup>th</sup> century B.C. completely unknown to the Athenians of the 5<sup>th</sup> and 4<sup>th</sup> centuries B.C. Gill's idea (1980) that Timaeos and Critias is a pastiche, in other words a mixture of historic with fictitious information could have a point to build an argument if he had established a rigid set of criteria independent which would allow him to remove fictitious from non-fictitious. But since 1897 we get more additional clarifying proofs for Plato's text. Let us follow these proofs carefully following Plato's statements step by step. In order to follow Plato's statements we need to visit the Acropolis.

In Figure 1 the Northern Bank of the Athens Acropolis is shown.



Figure 1. The North bank of the Acropolis of Athens, (after Broneer, 1939).

Plato writes as follows in connection with the Acropolis:

**Architectural details on Athens's prehistoric Acropolis**

Criti 112.b.3-112.b.5  
 τὰ δ' ἐπάνω τὸ  
 μάχιμον αὐτὸ καθ'  
 αὐτόμονον γένος  
 περὶ τὸ τῆς Ἀθηνᾶς  
 Ἡφαιστοῦ τε ἱερὸν  
 κατωκῆκειν, οἷον  
 μιᾶς οἰκίας κῆπον  
 ἐνὶ περιβόλῳ  
 προσπεριβεβλημένοι

But on the topmost  
 part only the military  
 class by itself had its  
 dwellings round about  
 the temple of Athena  
 and Hephaestus,  
 surrounding  
 themselves with a  
 single ring-fence,  
 which formed, as it  
 were, the enclosure  
 of single dwelling

In addition to our own observations we would like to send a *visitor* with a *time machine* in prehistoric Athens to climb up and come to the North part of Acropolis. He could see in early 12<sup>th</sup> century B.C. the buildings of the guardians out side of the wall of the Acropolis as Plato described it in the 4<sup>th</sup> century B.C. (Figure 2).

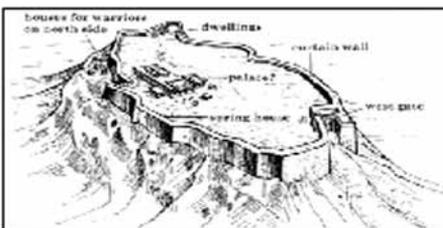


Figure 2. The outlay of the Acropolis of Athens at the end of the prehistoric period (12th century B.C.). The warriors' houses are in the Northern bank of the Acropolis outside its walls. The spring is also indicated, as Plato describes it (after Castlenden, 1998).

But if he could continue his tour in a particular sunny day of the summer of 1200 yr B.C. on the Acropolis he would wonder where to find water to drink he would be amazed since on the Acropolis there was a subterranean entrance leading to stairs.

### ***Winter compartments in the north***

Criti 112.b.5-112.b.7  
 τὰ γὰρ πρόσβορρα  
 αὐτῆς ᾤκουν οἰκίας  
 κοινὰς καὶ  
 συσσίτια χειμερινα  
 κατασκευασάμενοι,

on the northward  
 side of it they had  
 established their  
 public dwellings and  
 winter mess-rooms,

### ***Summer compartments in the south***

Criti 112.c.6-112.c.7  
 τὰ δὲ πρὸς νότου,  
 κήπους καὶ γυμνά-  
 σια συσσίτια τε  
 ἀνέντες οἷα θερούς,  
 κατεχρῶντο ἐπὶ  
 ταῦτα αὐτοῖς.

as for the southward  
 parts, when they  
 vacated their gardens  
 and gymnasia and  
 mess-rooms as was  
 natural in summer

### ***The guardians***

Criti 112.d.3-112.d.4  
 τούτω δὴ κατώκουν  
 τῷ σχήματι, τῶν  
 μὲν αὐτῶν πολιτῶν  
 φύλακες,

They dwelt, acting as  
 guardians



Figure 3. The spring's entrance (after Travlos, 1971).

But he had to go down nearly 25 m as Figure 4 illustrates and there he would find cold water to drink. But if the today's visitor had to visit the spring he would realize that it does not function any more. If he had geological knowledge and inspected not only the spring but all the area around Acropolis he would realize that an old earthquake had destroyed it. If by any chance could read Plato's text he would read the following:

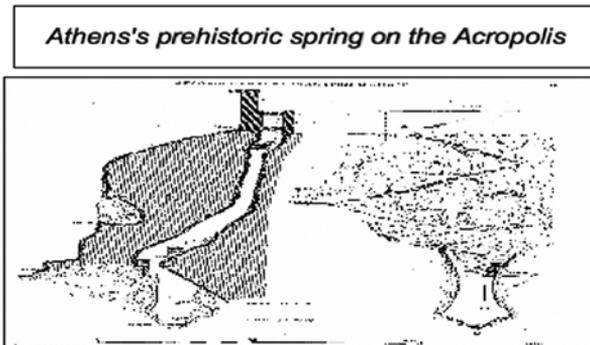
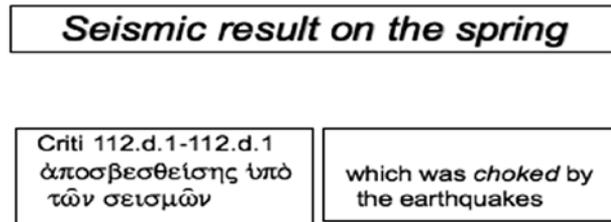


Figure 4. The vertical section of the spring (after Broneer 1939 and after Travlos, 1971 respectively)

If he was curious enough he would discover in the nearby museum that there is pottery found in the bottom of the old spring. His broken pottery denotes the time of the occurrence of the earthquake which stopped the functioning of the spring. It was the very first part of the 12<sup>th</sup> century B.C. as Plato once described in Critias 800 years before his period. But continuing reading Plato he would realize that he gives even further details of the functioning of the former spring.

***The functioning of the spring before and after  
the earthquake 800 years before Plato's 4<sup>th</sup>  
century B.C.***

Criti 112.d.1-112.d.3  
τὰ νῦν νάματα μικρὰ  
κύκλω καταλελειπται,  
τοῖς δὲ τότε πᾶσιν  
παρεῖχεν ἄφθονον  
ῥεῦμα, εὐκράς οὔσα  
πρὸς χειμῶνά τε καὶ  
θέρους.

full stream for them  
all, being well  
tempered both for  
winter and so that but  
small tricklings of it  
are now left round  
about; but to the men  
of that time it  
afforded a plentiful  
summer

Jordan (2001) uncritically says that Plato saw in the bank of the Acropolis the layer with the Mycenaean blocks and deduced the rest with *the assistance of his fertile imagination!* The question is applicable to Vital-Naquet (2005) as well who in his book said that Plato hated history! We used Jordan's book "The syndrome of Atlantis" which in Vidal-Naquet's opinion is complementary of his own "L'Atlantide" and we say that together with Edwin Ramage, who was editor and one of the authors of the volume of the proceedings of the symposium "Atlantis Fiction or Fact", could not see the following tangible evidence which Kavvathias (1897) and Broneer (1939-1948) described. We invite them to read the following passage from Broneer's paper:

*"Plato's description of early Athens is highly imaginative, as is the whole background for the dialogue of the Critias with the account of Atlantis and the tale of the war between the two powers. But is the whole story an invention on Plato's part, as modern philologists like to believe, or did he to some extent make use of material handed down by tradition and perhaps recorded by writers whose works are now lost? Whatever view we take of his statement that the account was first recorded by Solon who had received it from Egyptian priests, it must be admitted that if this story is his own invention it was framed as to appear plausible to Critias' interlocutors in the dialogue. We are justified in assuming that the main sketch of his picture of early Athens and of the buildings on the Acropolis is based on tradition and on accounts known to Plato and believed by him to be true. In Plato's days two important*

*but not very copious springs existed on the slopes of the Acropolis, the Klepsydra on the northwest slope, and the spring in the Asklepeion on the south side, and possibly there were others which have since been covered over. It was natural for Plato and his contemporaries to connect these with the tradition of the one large spring in or near the Acropolis which was said to have dried up after an earthquake, and the inference was near at hand that the existing springs came into being as the natural result of this event. Actually there can be no direct connection between the destruction of the one and the origin of the others, for it is likely that the springs on the slopes existed in some form even earlier than the main made fountain on the Acropolis. But tradition centered about the latter, which at one time in the history of the city had been of such importance to the lives of the inhabitants. It can hardly be doubted that this spring, whose existence was all but forgotten to the Athenians of the fifth century B.C. is the very fountain discovered in our excavations. As the earliest artificial water supply of ancient Athens it occupies a unique position among the scanty remains of that remote period.”*

We wonder what is the syndrome from which Jordan and Vidal-Naquet suffer which did not allow them to see even these unique platonic information about Critias’ prehistoric Athens of the 12<sup>th</sup> century B.C. which are proved historic facts?

### 3. Plato’s confirmed passages II

#### 3.1 The illiterate Greeks and the dark ages

But Plato continues and he describes the end of the Achaean culture in Greece and the consequences of the dark ages. He offers new and unique additional information which both Herodotus and the rest of the historians missed entirely. He says literally that the names of the prehistoric Greeks were saved in spite of the loss of their works!

Plato mentions that the prehistoric Greeks became illiterate.

#### ***Survival of the Hellenic language***

Criti 109.d.2-109.d.4

ὧν τὰ μὲν ὀνόματα  
σέσωται, τὰ δὲ  
ἔργα διὰ τὰς τῶν  
παραλαμβανόντων  
φθορὰς καὶ τὰ μήκη  
τῶν χρόνων  
ἠφανίσθη.

and of these citizens  
the names are  
preserved, but their  
works have vanished  
owing to the repeated  
destruction of their  
successors and the  
length of the  
intervening periods

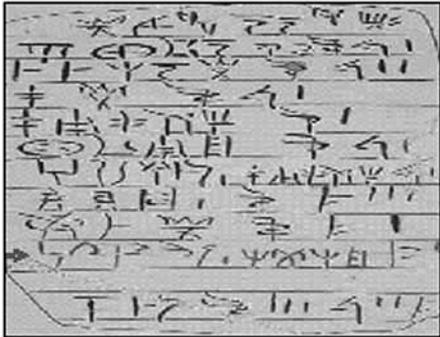
### Linear's B loss in Greece

Criti 109.d.4-109.d.8  
 τὸ γὰρ περιλειπόμενον  
 ἀεὶ γένος, ὥσπερ καὶ  
 πρόσθεν ἐρρήθη,  
 κατελείπετο δρειον  
 καὶ ἀγράμματον, τῶν ἐν  
 τῇ χώρᾳ δυναστῶν τὰ  
 ὀνόματα ἀκηκοὺς μόνον  
 καὶ βραχέα πρὸς αὐτοῖς  
 τῶν ἔργων.

For, as was said  
 before, the stock that  
 survived on each  
 occasion was a  
 remnant of unlettered  
 mountaineers which  
 had heard the names  
 only of the rulers, and  
 but little besides of  
 their work

He also writes that the later Greeks, loving their linguistic heritage, gave Greek names to their children. In *Figure 5*, a Linear B writing example of the Greek language is shown. The symbols in color mean the lady of the winds in alphabetic Greek.

### The lady of the winds



**Figure 5.** The Greek writing system of Linear B. The arrow (left) shows “the Lady of the winds” in Linear B.

Plato describes characteristically the Greeks’ love in their linguistic heritage with the following way:

**The later Hellenes were speaking the language of their ancestors**

Criti 109.d.8-109.e.2

τὰ μὲν οὖν ὀνόματα  
τοῖς ἐκγόνοις ἐτίθεντο  
ἀγαπῶντες, τὰς δὲ  
ἀρετὰς καὶ τοὺς  
νόμους τῶν ἐμπροσθεν  
οὐκ εἰδότες, εἰ μὴ  
σκοτεινὰς περὶ  
ἐκάστων τινὰς ἀκοάς,

So though they gladly passed on the names to their descendants, concerning the mighty deeds and the laws of their predecessors they had no knowledge, save for some invariably obscure reports

Figure 6. Illustrates an example of Greek words in both Linear B and alphabetic Greek writing systems presented in Latin characters.

It is obvious that Carpenter (1966) correctly noted that *Plato was the only one* who described the survival of the Greek language after the catastrophe of the 12<sup>th</sup> century B.C. Greek language was written in Linear B form, for centuries, before the 12<sup>th</sup> century B.C. during the Achaean period. It was forgotten during the dark ages every where, except Cyprus, and it was rewritten in alphabetic Greek in the 9<sup>th</sup> century B.C.

**Hellenic words in two different writing systems**

𐀀𐀃 <i>ka-sho</i> kha(1)ko(s) χάλκός	𐀓𐀀𐀃 <i>ra-ka-na</i> rha(s)gana σπάρες	𐀀𐀃𐀓 <i>ti-ri-ro</i> tripo(s) τρίποδας	𐀓𐀃𐀓𐀃 <i>i-je-re-ja</i> (h)iercia ἱερεία	𐀓𐀃𐀓𐀃 <i>ga-si-re-u</i> gwasileu(s) ἀρχηγός
𐀓𐀃 <i>ro-me</i> ro(i)me(n) ποιμένας	𐀓𐀃𐀓 <i>tu-ka-te</i> thugat(er) θυγατέρα	𐀓𐀃 <i>ko-wo</i> ko(r)wo(s) εἰγόρι	𐀓𐀃𐀓𐀃𐀓𐀃 <i>re-wo-to-ro-ko-wo</i> lewotrokho(wo(i)) που χύνουν νερό στο λουτρό	

Figure 7. Common words in Linear B, as found in Greece in the Achaean period (up to the 12<sup>th</sup> century B.C.) and alphabetic Greek writing symbols (from the 9<sup>th</sup> century B.C. onwards).

The 9<sup>th</sup> century B.C. is the century confirmed by Herodotus and by numerous archaeological excavations in Italy, Greece and Asia Minor. We invite the authors of the symposium

held at Indiana University in 1978 about *Atlantis* and Jordan and Vidal-Naquet to read Carpenter's publication again who wrote the following statement:

*"I am aware that, as F.M. Cornford remarked in his edition of Plato's cosmology, serious scholars now agree that Atlantis probably owed its existence entirely to Plato's imagination"*.

Carpenter continues further saying the following:

*"A remarkable detail that should convince the most skeptical of the genuineness of Solon's conversation with the Saitic priests is the latter's unambiguous statement that the older Greek race had been reduced to an unlettered and uncivilized remnant which, like children, had to learn its letters anew. This claim we know to be entirely exact; but we have no reason to believe that Plato himself was aware of it."*

But what was the cause of the catastrophe which made the Achaean culture to vanish? We have presented Phaethon's possible destruction St. P. Papamarinopoulos (2007a). It is time to present another cause which links us with Plato's text once more. Nur and Cline (2000) have discussed the case of the seismic storms which hit for fifty years Eastern Mediterranean. They present in *Figure 9* a map which exhibits the size of the effect of the seismic storm. They numbered 47 sites starting from Dymaeon Teichos (No1) in Greece and finished with Ashkelon (No47) in Middle East. They claimed that between 1225 and 1175 B.C. the earthquakes destroyed all these late Bronze Age settlements. However, for some reason not understood they missed Athens! In this *Figure* we set Athens with No 0 thus making 48 the sites *experienced the seismic storm* and added No35 at the marked point. By doing that we say to the reader that Plato once more writes the truth and in particular he presents part of the turbulent reality of the 12<sup>th</sup> century B.C. from the standpoint of the Achaean prehistoric Athens. His work was not a small story as Vidal-Naquet (2005) erroneously suggested. The reader may see that in *No13 Troy* is within the list. In other words Homer is justified too saying the following as the text shown in Fig.8 presents.

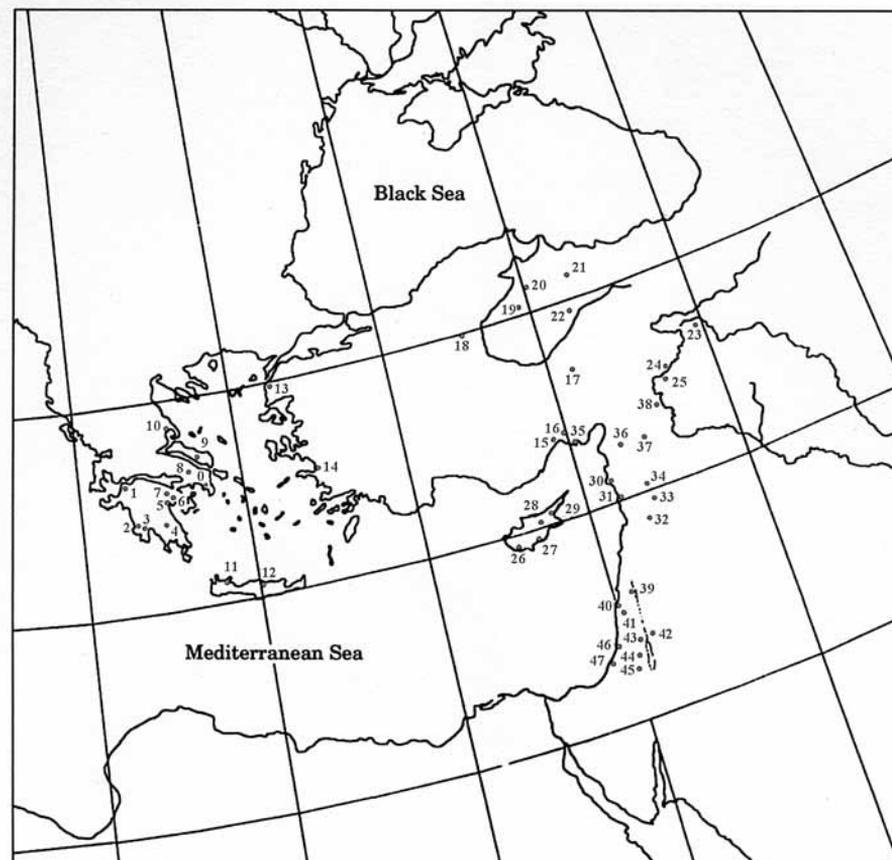
## *A torrential rain, a seaquake and a tsunami in the 12<sup>th</sup> century B.C. described by Homer*

Il 12.25-12.33

ὕε δ' ἄρα Ζεὺς συνεχές, ὄφρα κε  
 θάσσον ἀλίπλοα τείχεα θεῖη. αὐτὸς  
 δ' ἔννοσίγαιος ἔχων χεῖρεςσι τρίαιναν  
 ἡγεῖτ', ἐκ δ' ἄρα πάντα θεμέλια  
 κυμασι πέμπε φιτρῶν καὶ λάων, τὰ  
 θέσαν μογέοντες Ἀχαιοί, λεία δ'  
 ἐποίησεν παρ' ἀγάρροον Ἑλλήσποντον,  
 αὐτίς δ' ἦϊόνα μεγάλην ψαμάθοισι  
 κάλυψε τείχος ἀμαλδύνας· ποταμοὺς  
 δ' ἔτρεψε νέεσθαι κάρρῶν, ἦ  
 περπρόσθεν ἱεν καλλίρροον ὕδωρ.

And Zeus rained constantly, so that  
 the more quickly he might overwhelm  
 the wall in the salt sea. And the  
 Shaker of the earth, holding his trident  
 in his hands, was himself the leader,  
 and swept out on the waves all the  
 foundations of beams and stones that  
 the Achaeans had toiled to set up and  
 made all smooth along the strong  
 stream of the Hellespont, and again,  
 covered the great beach with sand  
 when he had swept away the wall; and  
 the rivers he turned back to flow in the  
 channel where they had earlier poured  
 their fair-flowing streams

**Figure 8.** It was impossible for the ancient geographer Strabo and consequently, by the modern historian Pierre Vidal-Naquet and archaeologist Christos Doumas to understand that the Achaeans' military camp being close to the sea became victim of a torrential rain, of an earthquake and of a tsunami. All the three were described in detail by Homer. Especially the tsunami is clearly presented in a way which geologists can easily understand it. But further archaeological evidence produced by Blegen (1952) and geological evidence produced by Kraft (2003) prove that Homer's description of the topography and the geological events was correct.



**Figure 9.** Both ancient authors, Plato and Homer, retained a different tradition of the 12<sup>th</sup> century B.C. The author of the present paper has completed Nur’s and Cline’s (2000) map of the seismic hazards in the East Mediterranean in the 12<sup>th</sup> century B.C by marking *Athens as 0*. However, modern science offers a full picture of the results of the seismic storms in the East Mediterranean. Ancient prehistoric tradition in Greece, originating from the 12<sup>th</sup> century B.C. has been separately retained for Athens and Troy shown in 0 and 13 respectively.

Homer describes a double event which was expressed initially as exceptional rain followed by a seaquake in the Hellespont producing a tsunami which entered in the Troad and destroyed the Achaean camp. Since we do not know where the Achaean camp was, we observe that 12<sup>th</sup> century B.C. seismic activity at Troy itself which was most likely close to the Achaean camp. The archaeologically proved seismic event at Troy, mentioned by Nur and Cline (2000), was described by the excavators too in their final report:

*“We feel confident in attributing the disaster to a severe earthquake”, “a violent earthquake shock will account more convincingly than any probable human agency for the toppling of the city wall”* Nur and Cline (2000) say that the event has occurred in the period between 1225 and 1175 B.C.

But Plato describes something very similar in connection with Athens as follows (Fig.10)

***A torrential rain an earthquake and a land slide described by Plato in connection with Athens in the 12<sup>th</sup> century B.C.***

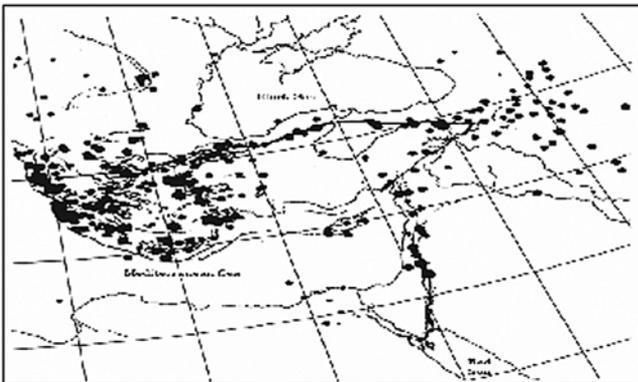
Criti 112.a.1-112.a.3

νῦν μὲν γὰρ μία  
γενομένη νύξ ὑγρὰ  
διαφερόντως γῆς  
αὐτὴν ψιλὴν περι-  
τήξασα πεποίηκε,  
σεισμῶν ἅμα

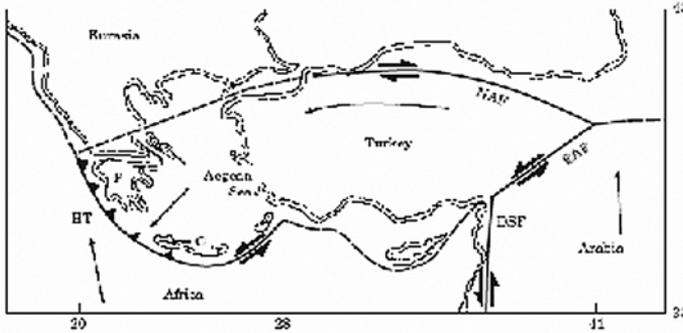
For as it is now, the  
action of a single  
night of extraordinary  
rain has crumbled it  
away and made it  
bare of soil, when  
earthquakes occurred  
simultaneously

**Figure 10.** Plato describes a torrential rain before the earthquakes in prehistoric Athens.

We know that the seismic event of the Acropolis was recorded because it stopped the subterranean spring in early 12<sup>th</sup> century B.C. Plato himself does not know the date of the event thus he tries to connect it, convinced by the Egyptian priesthood, with the oldness of Athens, *Atlantis* and Egypt in the range of thousands of years, by putting the Athenian event earlier than occurrence of Deukalyon's well known flood. By placing prehistoric Athens in the map, produced by Amos and Nur, we also say that Troy and Athens were destroyed, *simultaneously so to speak*, in other words due to the seismic storms within the fifty years (1225-1175 B.C.) period. *Figure 11* illustrates the position of the major faults in East Mediterranean whereas Fig.12 shows the epicentres above 6.5 Richter the last over the last century in the same region.



**Figure 11.** The major faults of the East Mediterranean which are responsible for the seismic activity (after Nur and Cline, 2000).



**Figure 12.** The seismic epicenters of the East Mediterranean. over the last century. They are produced by earthquakes with a magnitude above 6.5 Richter. They are instrumentally recorded over the biggest part of the twentieth century (after Armijo, Deschamps and Parter, 1986).

**4. Conclusions**

Homer and Plato present seismic catastrophes in Troy which was burnt and Athens which remained unburnt respectively. Both events have been confirmed as belonging in the early 12<sup>th</sup> century B.C.

**Dedication**

I dedicate this work to the archaeologists Panagiotis Kavadias, Oscar Broneer, Rhys Carpenter, Peter James and the brilliant Eberhard Zangger

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