

## **DAAD Summer School**

***“Dialogue on Cultural Heritage in Times of Crisis”***

**FROM THEORY TO PRACTICE: HOW TO SAVE OUR HISTORICAL  
HERITAGE IN DANGER -COMPARATIVE CASE STUDIES.**

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## **ABSTRACT**

This report aims to present a comparative case study between Akrotiri and Parthenon. These two monuments are different. Because of that on the one hand examines the history of each place and on the other hand approaches the history of the conservation and restoration of each monument. As we will see below, they were used in different chronological periods, they were built in different geographical and cultural horizons and also they had different function and use, for example the first one, Akrotiri, was a settlement with domestic buildings whereas the second one, Parthenon, was a temple dedicated to goddess Athena. Moreover, as it is evident from the above as different structures they needed different methods for conservation which are based, if it is possible, on the preserve of the historical evidence of the monuments and on their character as ruin. Finally, the conservation should be a practice to improve the form of each monument in order to reveal their artistic value and also to maintain the identity of their region.

**Keywords:** Parthenon, Acropolis, Conservation, Restoration, Thera, Akrotiri, Temple, Settlement

## **ABOUT THE AUTHOR**

My name is Rafail Charalampous. I studied History and Archaeology at the University of Cyprus, with a specialization in Archaeology. I graduated this summer and I intend to pursue my studies with a postgraduate degree in Archaeology in Italy. I took part in the summer school "Dialogue on Cultural Heritage in Times of Crisis" because I believe that is very important, as archaeologist, to learn more about preservation of cultural heritage. It was very beneficial for me to examine the cultural heritage from a different point of view while are forced upon us by the difficult times the world is experiencing nowadays.

## 1. INTRODUCTION

Akrotiri and Parthenon as we will see below, are two different monuments. This report examines the history of each place and the conservation and restoration of each monument. The restoration and the conservation of these two monuments was begun in the 20th century.

The 20th century was evenly divided by how monuments should be preserved. In brief, there were two trends for conservation, based on empiricism. The French Viollet le Duc represented the extreme type stylistic reconstructions. In contrast John Ruskin represented the opposite type 'Antirestoration Movement' which promoted the view that the monuments as living organisms may even die. On one hand These two ends of view helped to keep somewhat a balance between them for example the case of Akrotiri. On the other hand in Greece in this period there was a need to show off their western identity as for example of extreme type was the case of Parthenon. However, in both cases there were many evolutionary steps of conservation throughout the years.

## 2. THE CASE OF AKROTIRI

Akrotiri is the first topic which is analyzed. The site of Akrotiri is located at the southern end of the island of Thera and abstrains 60 nautical miles from the north coast of Crete. Already in the second millennium BCE there are distinguishable influences from the Minoan Crete in the everyday life of the Cycladic islands. The Cyclades were located in key maritime routes and because of that they had developed seamanship and marine equipment. Also, Akrotiri was an urban centre and was located near of the main port of Thera. It is generally a site of special cultural significance because it provides information on geological, climatological, environmental phenomena, the process of urbanization, the ancient levels of technical and scientific knowledge and the architecture and furniture of the period (Doulas, Ch. 1997; 27-31) (Marthari, M. 2001; 105, 114, 115).

### 1. *The Pompeii of the Aegean*

The excavations at the area of Akrotiri begun in the 20th century. The first archaeologist who excavated there is Spyridon Marinatos in 1967. Today the director of the excavation is Christos Doulas. The excavations show that an earthquake destroyed much of the settlement giving an opportunity to build a new town. However, after that, the volcano of Thera erupted and buried what was left under thick layers of ash, pumice, and lava. The final phase of the buildings is dated back to the beginning of the Late Minoan IA period (1600 BCE – 1540 BCE). The technological structure of the buildings this period was clearly influenced by the corresponding of the Minoan civilization (Marinatos, N. 2014; 45-54,171-173), (Palyvou, K. 2008; 477) (Doulas, C. 2006; 11-12), (Palyvou, K. 1992; 36-39,80,82,93)

#### 1. *The Buildings*

The main building material is stone, wood, and clay for example hewn stone was used extensively around the openings (fig.1). Now it is generally accepted that they used timber as for example for the construction of walls. Also, with clay they manufactured mortars and mudbricks. The buildings were composed of the entrance, the hall with the central pillar, the Minoan (tripartite) hall and the storage room. On the ground floor there were workshops for domestic tasks or shops (They found tools including stone grinding mills, crucible and cooking pots). The first floor was the main part of the house. There, residents welcomed guests and also it may have served as bedrooms. Also, the first floor of many houses was decorated with frescoes (Marinatos, N. 2014;45-54, 77-85), (Palyvou, K. 1992; 36-39,80,82,93) , (Palyvou, K. 2008; 477)



*Figure 1. A building from the settlement of Akrotiri.*

## *2. The Conservation and the development of the site*

The city of Akrotiri was buried in the 16<sup>th</sup> century under thick deposits of pumice and volcanic ash. The way in which the town was destroyed helped to preserve many buildings up to the first and sometimes even the second floor. In many cases traces of organic materials like pieces of furniture, timber framework, baskets, remained buried under the volcanic ash. All these objects under special conditions and techniques can be rescued. However, it does not exist any evidence of human remains or hoards that probably due to the fact that the residents understood the weird phenomena before the eruption of the volcano and they left from the settlement (Doumas, Ch. 1997; 31-33), (Marinatos, N. 2014; 10-17, 176-177) .

Some of the buildings were very vulnerable for example due to many factors various structures (walls, doors, etc.) were moved from their original position. Marinatos tried to excavate with the method of the underground tunnels and at the same time he tried also to replace impressions of wood with new wood. He instructed to be place concrete struts on the exterior walls of the houses to avoid deformation of the walls. He used also, the cast concrete for the restoration of the organic imprints (for example the wooden table and bedstead) (Doumas, Ch. 1997; 31-33), (Marinatos, N. 2014; 56-57, 64-65, 196-197) .

After the excavations and the conservation of the buildings begun the development of the site as archaeological site/park. Firstly, they did expropriation of the land around the excavation area. Secondly, they constructed various walkways and they placed explanatory texts and graphics. Thirdly, as part of the conservation of the buildings they built a protective roof over the excavated site. Although, the shelter itself seemed to have many problems ( especially with the canalization of rainwater and with the lighting of the monuments). Also, the Protective Roof prevents the mapping of the site and estranges the archaeological site from its natural environment. Furthermore, the roof was constructed by asbestos sheets, and as we know these are harmful to health therefore, the conditions under such roof, especially in the summer are unbearable because of the heat (Marinatos, N. 2014; 42-43, 190-191), (Doumas, Ch. 1997; 33-39) (Doumas, Ch. 2013; 111-113) .



Figure 2. The new protective shelter.

Apart from these a problem was that, after the great eruption of the 16<sup>th</sup> century BCE, torrents of rainwater destroyed a part of the city and created a ravine. Any effort of preservation should take in account this ravine. Finally, there was a problem with the tourist capacity and the stability of the temporary structures. The crowd of visitors are a risk both for themselves and the exhibits. However, some new attempts was detected for the development of the archaeological site (Doumas, Ch. 1997; 31-33) (Doumas, Ch. 2013; 111-113) (Marinatos, N. 2014; 56-57, 64-65, 196-197) .

The architect N. Fintikakis proposed a project of a bioclimatic shelter which respects the environment (fig.2). When the excavation begun and they excavate for the foundation of the pillars for the new shelter, took the opportunity to find out the entire history of the site and the pre-eruption relief of the area. The new roof was covered with a layer of soil, with that, there is thermal comfort inside, the light enhances the monuments, the rainwater is stored and it is in complete harmony with the surrounding landscape. The new walkway is around of the perimeter of the excavated area and is accessible also to people in wheelchairs. Last but not least, the new storage facilities of restored wall-paintings, combining safe-keeping and easy access for study and maintenance. Archaeologist are currently working on the conservation and restoration of findings as well as the 3D simulation of the buildings with their frescoes (Doumas, Ch. 1997; 33-39) (Doumas, Ch. 2008; 7-24) (Doumas, Ch. 2013; 113-117) .



### **3. THE CASE OF PARTHENON**

Parthenon is the second topic that it is analyzed. Parthenon as is generally known was built on the Acropolis hill. Acropolis is located in the mainland of Greece, at the current capital of the Greek State, Athens. In the 6<sup>th</sup> century BCE, when Peisistratos founded the Greater Panathenaic Festival, Acropolis lost its military character and became the sacred rock. On the hill of Acropolis, after the Persian invasion in Athens, during the 5<sup>th</sup> century (447-432 BCE), above of the ruins of previous temples a new temple was built, by the architects Ictinus and Callicrates and the sculptor Fedias. This temple was devoted to Goddess Athena and was the symbol of the rising both in richness and in power hegemony of Athens against other Greek allies, for example, for the construction of Parthenon over 100.000 tonnes of marble and 70.000 tonnes of stones had to be mined and transferred from Penteli to the hill of Acropolis (Connelly, J. 2016; 17-123) .

#### *1. The Architecture and the decoration of the Temple*

The main temple is divided into three parts: the pronaos (front porch), the cella (sanctuary) and the opisthonaos (rear porch). The sculptural decoration of the Parthenon consists of the Pediment, and the Metopes, around the temple and the Frieze (a new theory shows that the representation of the freeze based on a founding myth not on the Panathenaic festival).

The temple is a combination of the Doric and Ionian style but in many cases it has a unique as well. There are two Pediments, the east and the west, both is decorated. The east pediment represents the birth of Athena and the west the battle between Athena and Poseidon. The decoration of the Metopes extends in four parts the east, west, north and south. The East Metope represents the mythical battle between the Olympian Gods and the Giants, commonly called Gigantomachy. The West Metope represents the mythical battle between the Athenians and the Amazons commonly known as Amazonomachy. The North side of Metope represents the Fall of Troy and the South side of Metope represents the mythical battle between the Thessalian youths (Lapiths) against the Centaurs during a wedding celebration commonly known as Centauromachy. The Frieze represents the procession to the Acropolis, which, was during the Great Panathenaia. The celebration was in honor of the goddess Athena (Connelly, J. 2016; 125-133,207-254) ( <http://www.ysma.gr>) (<http://www.theacropolismuseum.gr>) .

#### *2. The History of the Monument*

It is now accepted that the damage of Parthenon was caused by the human factor as a monument which was always visible. The fire of 267 CE, probably from the invasion of Heruli, was the first major destroy. The effect of that was the destruction of the internal colonnade and the roof. Emperor Julian was the person who repaired the temple again. The second damage was came when the temple was turned into church by the christians. However, the views on the conversion of Parthenon into a Christian church during the 6th century is equivocal. On the one hand, they did several architectural changes to make it function as a church damaged the building but on the other hand the continuous use of the Parthenon helped its preservation . The eastern entrance was blocked and in its place was built the arch of the bema. During the 13th century, also, they built a tower in the western part of the temple, perhaps to support the adding of a bell tower (Korres, M. 1994; 138, 312-319) (<http://www.ysma.gr>) (<http://www.theacropolismuseum.gr>).

Moreover, when the Ottomans occupied Athens in 1456 they added a minaret and they turned it into a mosque. In addition, in 1687 after a siege of the Venetians, Parthenon was partly destroyed. Because of its destruction it ceased to function as a mosque. After that, the building was used as a quarry and only in a part of it they built a new small mosque.

From the 18th century European travellers went to Athens and visited Acropolis. They were the first to realize the artistic and historical value of the Parthenon. This had become the start for a new understanding of the Parthenon and its use as an exhibit. In that century a company for protection of antiquities was

established in Athens, and this led to the spread of the value of antiquities perceptions in Europe for monuments. Also, during the period of Greek revolution, Parthenon became the symbol of an ancient glory and an idol of the nation (Korres, M. 1994;319-323) (Tufano-Mallouchou, F. 2007; 36-40) (<http://www.ysma.gr>) (<http://www.theacropolismuseum.gr>) .

### *3. The History of the Restoration*

When Athens integrated into the Greek State, Bavarians and Greeks carried out operations on the Acropolis hills in order to purify the inferior quality ruins of newer buildings. Kyriakos Pittakis has collected many of the ancient pieces (fig.3)of Parthenon and based on that in the 1834 was the symbolical starting of the restoration of Parthenon and Leo Von Klenze it was the first who put back together an ancient column. Leo Von Klenze was influenced by the perceptions of his era, like the cleaning of the archaeological site from the new elements, the restoration with original ancient building material and the logical additions into the monument by eye. In generally in that period they aimed to preserve the ruin style and they shown particular interest in the environmental, technical and aesthetic values but They paid little attention to the historical value of the monuments (Korres, M. 1994;319-323) (Tufano-Mallouchou, F. 2007; 36-40) (<http://www.ysma.gr>) (<http://www.theacropolismuseum.gr>) .

Later, between 1842 and 1845 Pittakis was responsible for the restoration of the Parthenon together with Rizos Ragavis. They restored 4 columns of cella and they placed similar parts in random locations. Also, they made use of unsuitable materials and spolia. In 1872 Panagis Kalkou was responsible for the second restoration of the Parthenon. In this period they restored a part of the cella, maintained the Western frieze and the architraves. Again they placed similar parts in random locations and they made use of unsuitable materials. Above all it worth to mention that it was a work without documentation and publication.



*Figure 3. The Dominate of the empiricism and the prevalence only the ancient materials.*

The most important restoration for the history of the monument was that of Balanos. He did restoration work on the hill of Acropolis for 35 years. However, in Italy in the same period were developed theoretical and technical innovations for the restoration, Balanos did not follow the new practices. He began in 1894 a



conservation projects without supervision by others. The extensively use of iron clamps to link architectural parts was disastrous. The expansion of the iron in the oxidation caused cracks in the architectural parts. Also, he used cement mortar and ignored the importance of the Pentelic marble (fig.4)(Korres, M. 1994;319-323) (Tufano-Mallouchou, F. 2007; 36-40) (<http://www.ysma.gr>) (<http://www.theacropolismuseum.gr>) .



*Figure 4. The use of cement mortar.*

After Balanos, the following responsible person for the restoration of Parthenon was Orlandos. Orlandos, between 1941 and 1944 studied the history of the monument. Later, in 1953 they started to demolish the tower and the staircase of the Parthenon but they stopped. In 1964 until 1967 he published various articles for the protection and the preservation of the ancient monuments such as the principle of reversibility (every monument after its conservation can be restored to the condition it was before the restoration) (Korres, M. 1994; 319-326) (<http://www.ysma.gr>) (<http://www.eecgacropolis.gr/>).

In nowadays, there are many restoration programs on the Acropolis hill. The restoration and conservation teams are composed by professionals. There are responsible people from different disciplines (Conservation Commission ESMA). They organized conferences and reports and informed the scientific community about the results of the restoration work but the most important, was the involvement of Manolis Korres in the restoration program of the Parthenon since 1977 (Korres, M. 1994; 326-330) (<http://www.ysma.gr>).

The basic principles of restoration and conservation are the follow, firstly there should be a possibility of restoring the monument to the condition it was before the operation. Secondly, the intervention to the parts which have already been restored has to be limited and thirdly the maintenance of the building should not interfere to its appearance. Moreover, the sections of the monuments that are problematic are dismantled. In addition the scattered architectural parts are placed in their original position. Also, the structural restoration includes the filling of microcracks - gaps and the stone surface conservation includes their cleaning (fig.5). Finally, the scattered architectural parts are restored and integrated using titanium rods (<http://www.ysma.gr>) (Korres, M. 1994; 326-330) .





*Figure 5. The cleaning of the sculptures(left) and the structural restoration (right).*

#### **4. CONCLUSION**

The preserve of the historical evidence of the monuments commonly known as layers of landscape and their character as ruin are the two most important trends for the restoration of a monument. Also, the preserving is very important and should be a practice to improve their form in order to reveal their artistic value. The conservation of the monuments must preserve their natural environment, in order to maintain the identity of the region.

In addition, the restoration of monuments must be based on a multidisciplinary care to save the values and the spirit of the era which built the monument and the intervention should be made after extensive study with materials compatible with the original.

Last but not least, the modern technology should be applied to provide necessary equipment and constructions but except that the archaeological parks need further developed, also, in order to serve special categories of the population.

## **Acknowledgment**

I would like to thank the TUM and the University of Pisa for this great opportunity to meet new and distinguished academic people, as well as learn more about other countries' cultural heritage. Furthermore, I want to thank professor Emmerling and Dr. Fonti for the opportunity to examine the cultural heritage from a different point of view and not only from archaeological point.

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## Rafail Charalampous

From Theory to Practice: How to save our historical Heritage in danger - *Comparative case studies.*



25 Sept. 2016

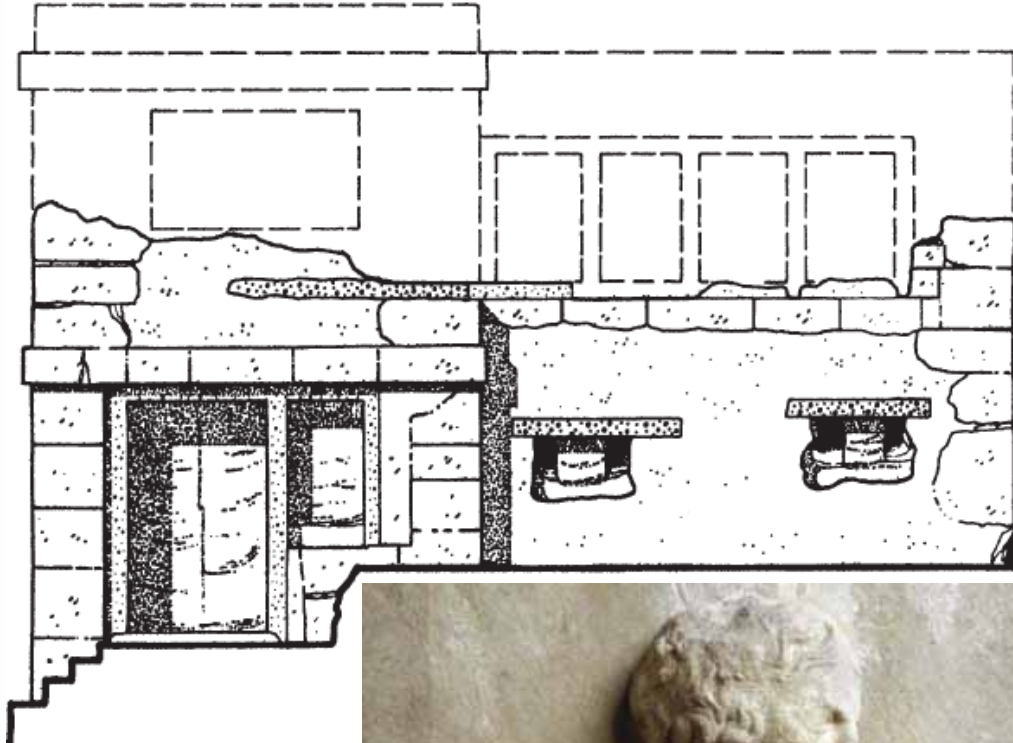
Hotel *Principe Napoli'Amo*, Naples



# Comparative case studies

## DIFFERENCES:

- Architectures.
- Chronological.
- Geographical, Cultural.
- Function, Use.
- In the methods for conservation.





# The Conservation and the 20th century

- A period divided by how monuments should be preserved.
- The empiricism.
- Viollet Le Duc and the extreme style of reconstruction.
- John Ruskin and the 'Antirestoration Movement'.

⇒ The balance between them -> Akrotiri.

⇒ Greece and the 'western identity' - a type of extreme style -> Parthenon.





## Akrotiri – Thera (Santorini)

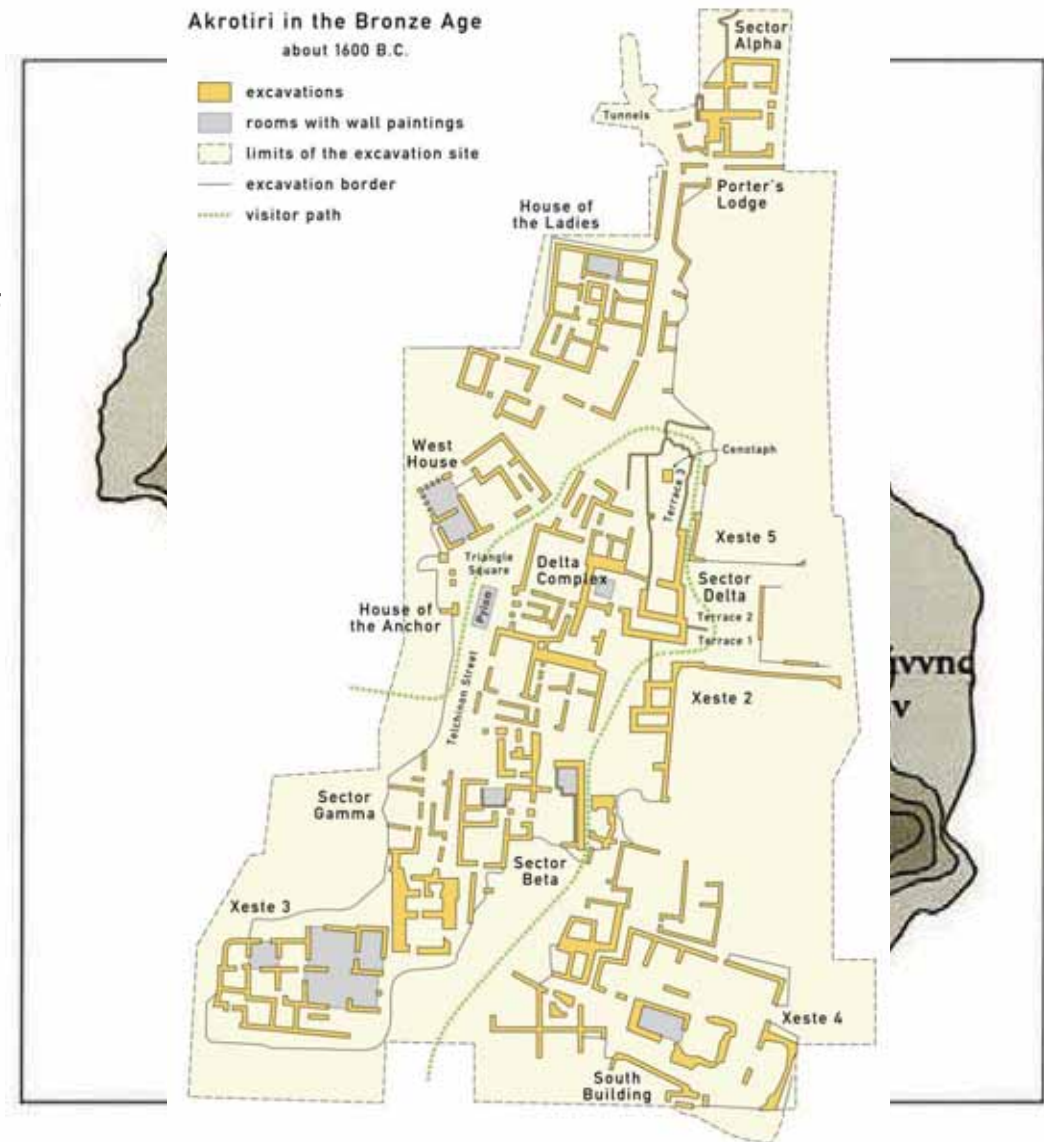




## Akrotiri – Thera

- Thera is near of the coast of Crete.
- The second millennium BCE and the influences from Minoan Crete.
- Cyclades in the main maritime routes.
- The significance of the site on the topics of urbanization as well as technical and scientific knowledge.

## 'The Pompeii of the Aegean'



(Doumas, Ch. 1997; 27-31)

(Marthari, M. 2001; 105, 114, 115)

# Akrotiri – Thera

- In 1967 - Spyridon Marinatos.
- Director today – Christos Doumas.
- An earthquake and the new town.
- The volcano of Thera, its eruption.
- The final phase of the buildings → 1600 BCE – 1540 BCE

(Marinatos, N. 2014; 45-54,171-173)  
(Doumas, C. 2006; 11-12)

## *The site of Akrotiri*



(Polyvou, K. 2008; 477)  
(Polyvou, K. 1992; 36-39,80,82,93)



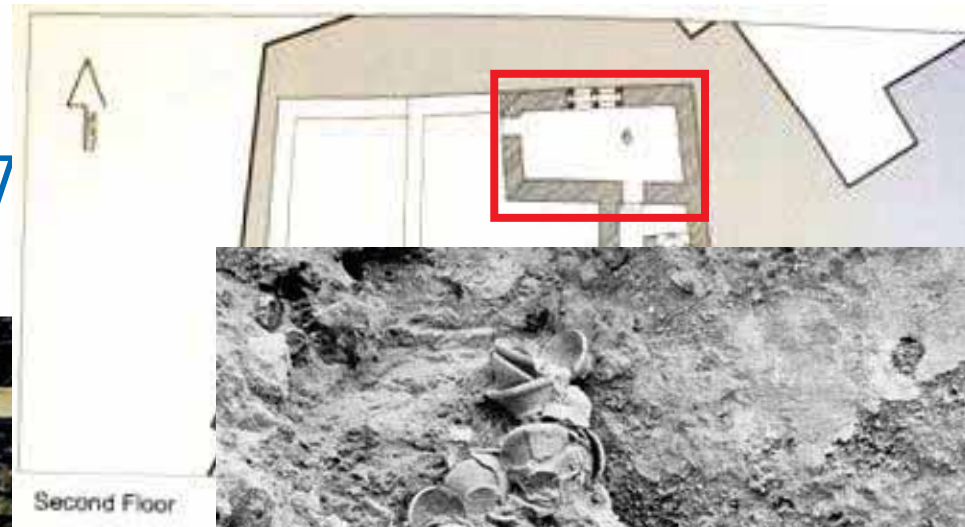
# Akrotiri – Thera (7)

- The material -> stone, wood, and clay.
- The use of Hewn stone.
- The use of timber.
- The use of mortars and mudbricks.
- The entrance - the hall with the central pillar - the Minoan (tripartite) hall - the Storage room.

(Marinatos, N. 2014; 45-54, 77-85)

(Polyvou, K. 1992; 36-39, 80, 82, 93)

(Polyvou, K. 2008; 477)



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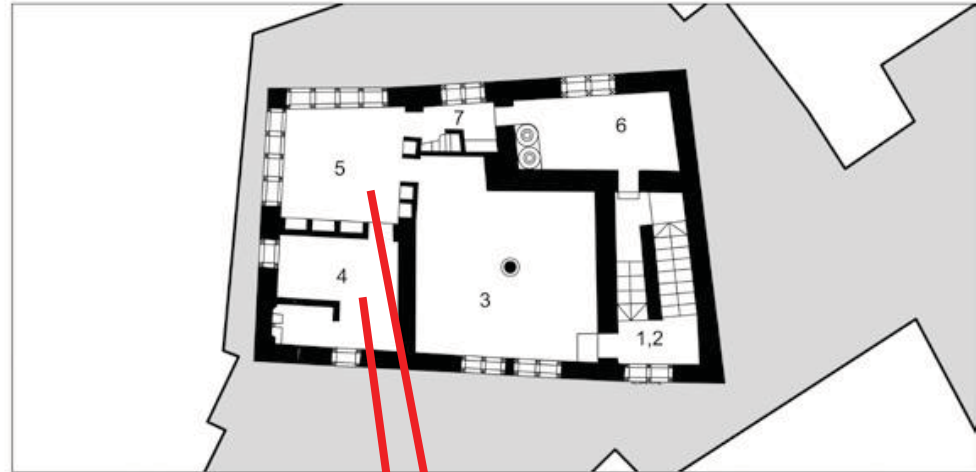
## Akrotiri – Thera

- The ground floor -> Workshops or Shops.
- The first floor -> "Salon" and its use as bedroom.
- The decoration of the first floor with frescoes.

(Marinatos, N. 2014; 45-54, 77-85)

(Polyvou, K. 1982; 18-22)

## *The Buildings (The Example of the West House)*



First Floor





# Akrotiri – Thera

- In the ~16<sup>th</sup> century was buried under the pumice and volcanic ash.
- This destruction helped to preserve many the up floors for many buildings.
- Organic materials - furniture and timber framework - and their imprints.

## The Conservation



*(Doumas, Ch. 1997; 31-33)*

*(Marinatos, N. 2014; 10-17, 176-177)*

# Akrotiri – Thera

- The ruins are very vulnerable.
- The change from the original position many of the structures.
- The good preservation of the settlement and its conservation in the minimum.

## *The Conservation*



*(Doumas, Ch. 1997; 31-33)*

*(Marinatos, N. 2014; 56-57, 64-65, 196-197)*



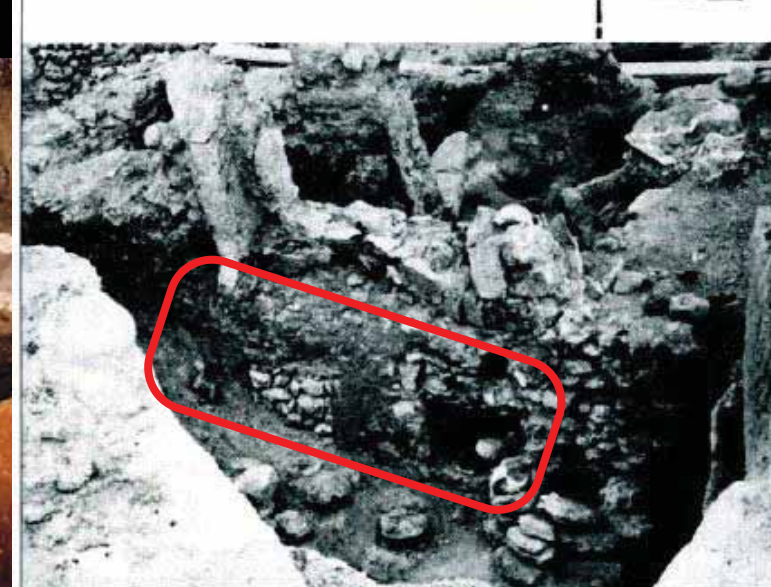
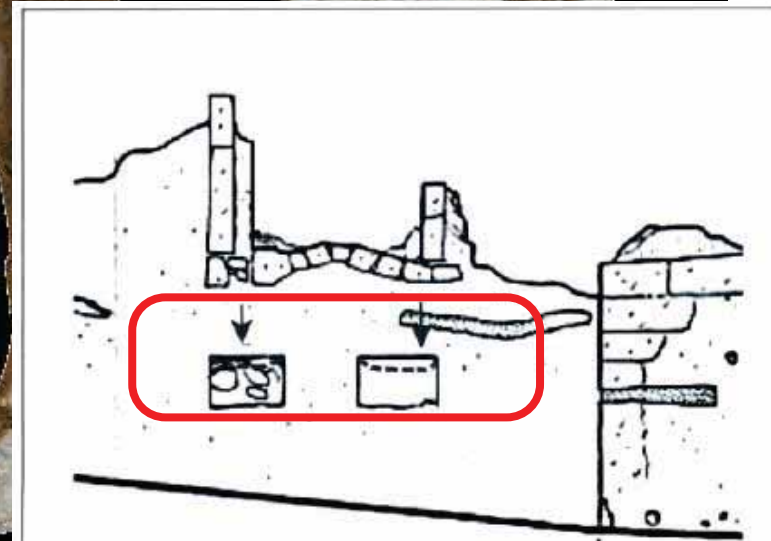
# Akrotiri – Thera

- Marinatos and the method of the underground tunnels.
- The attempt to place wood on the remains of the ancient wood.
- The struts from concrete for the protection of the walls.
- The use of concrete for restoration of the organic imprints .
- The wrong use -> The rectilinear and horizontal windows.

(Marinatos, N. 2014; 42-43, 190-191)

(Polyvou, K. 2014; 252-260)

## The Conservation



# Akrotiri – Thera

## *The Conservation*

The attempts for the development of the archaeological site.

- The expropriation of land around the excavation site.
  - The diversion of the streambed a few meters west.
  - The roofing of the excavated area.
  - The creation of various walkways and the placement of explanatory texts and graphics.
  - The development of special excavation techniques and the creation of storage and laboratories.
    - The fastening operations of the buildings.

(Doulmas, Ch. 1997; 33-39)

(Doulmas, Ch. 2013; 111-113 )

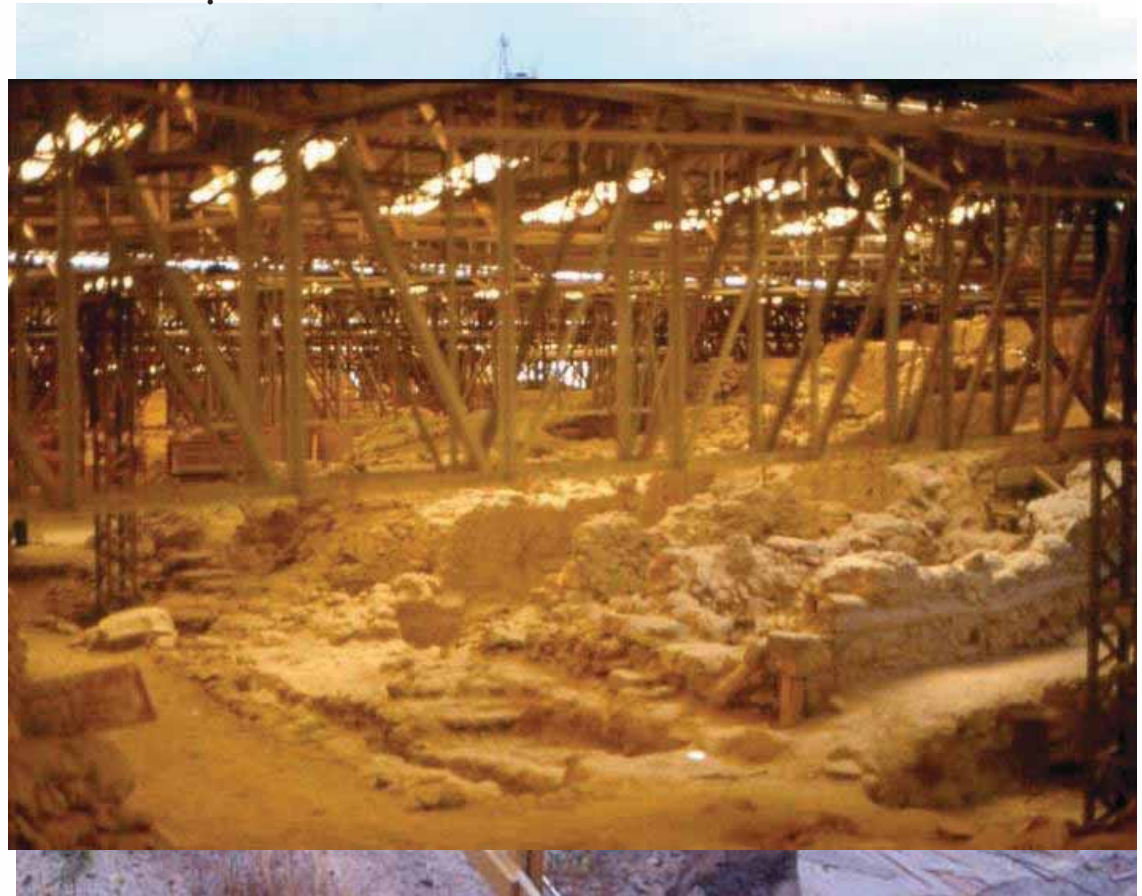
(Polyvou, K. 2014; 252-254)

## Akrotiri – Thera (Santorini)

- Conservation -> over the excavated area there was a protective roof.
- The shelter had many problems.
- The Protective Roof, as prevents the mapping of the site and estranges the archaeological site from its natural environment.
- The roof was constructed by asbestos sheets.

## *The Conservation*

The old shelter and the problems



*(Doumas, Ch. 1997; 31-33)*

*(Doumas, Ch. 2013; 111-113 )*

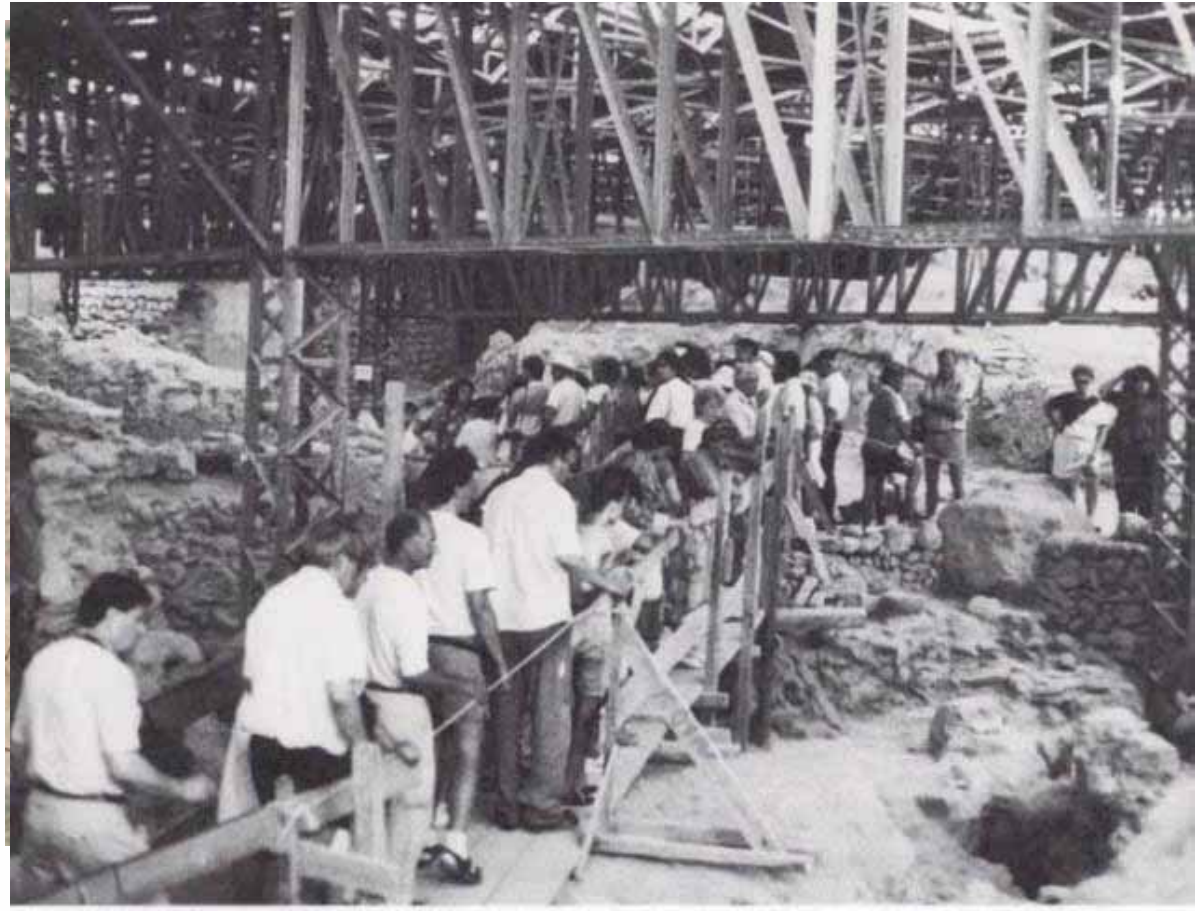
*(Marinatos, N. 2014; 56-57, 64-65, 196-197)*



# Akrotiri – Thera

- Any effort of maintenance had to take into account the ravine.
- There were problems with the tourist capacity and the stability of the temporary structures.

## *The Conservation* The old shelter and the problems



*(Doumas, Ch. 1997; 31-33)*

*(Doumas, Ch. 2013; 111-113 )*

*(Marinatos, N. 2014; 9-10)*

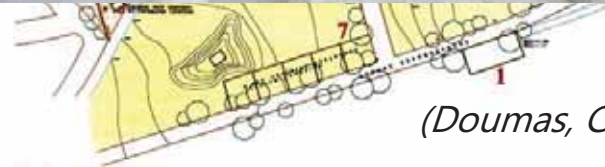


# Akrotiri – Thera

- The architect N. Fintikakis and the project of a bioclimatic shelter.
- The pillars for the new shelter and the opportunity for discovery the entire history of the site.
- The ceiling cover with a layer of earth gives several advantages to the environment and the archaeological site.
- The walkway is accessible also to people in wheelchairs.
- The new storage facilities and laboratories.

## The Conservation

The new protective shelter.



(Doulas, Ch. 2013; 113-117)

# Akrotiri – Thera

## *The Conservation*

### New Efforts and Goals

- The continuous maintenance and restoration of the findings.
- The 3D simulation of the buildings with their frescoes.



*(Doumas, Ch. 2008; 7-24)*

*(Doumas, Ch. 1997; 33-39)*

*(Doumas, Ch. 2013; 111-113)*

*(Polyvou, K. 2014; 252-254)*

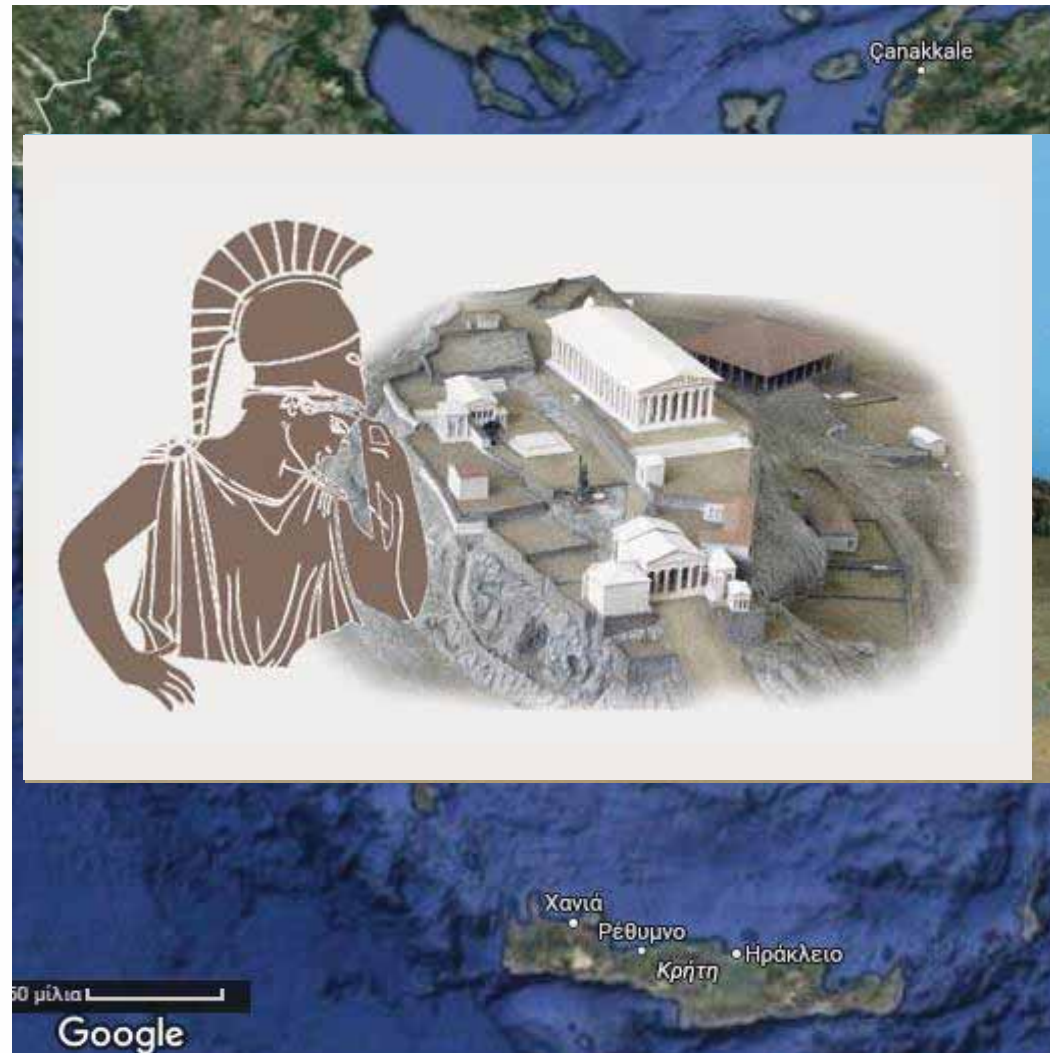


# Parthenon (Acropolis)



# Parthenon

- Acropolis is located in the mainland of Greece.
- In the 6<sup>th</sup> century BCE Peisistratos founded the Greater Panathenaic Festival and Acropolis became the Sacred Rock.
- The temple was built between 447-432 BCE, by the architects Ictinus and Callicrates and the sculptor Fedias.
- The hegemony of Athens and the Parthenon as a symbol of richness and power.

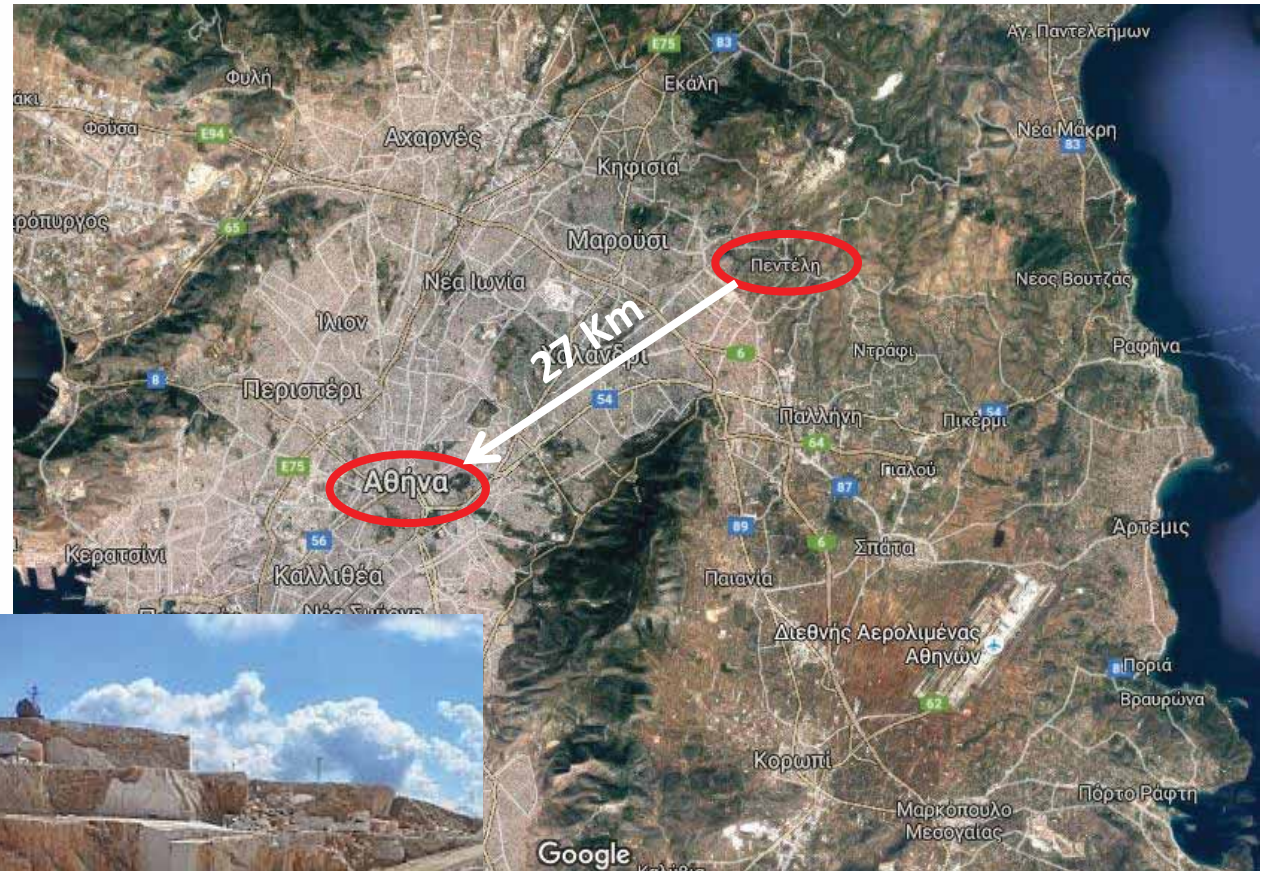


(Connelly, J. 2016; 17-122)



# Parthenon

- For the construction of the Parthenon were mined and transferred from Penteli over 100.000 tonnes of marble and 70.000 stones.



(Connelly, J. 2016; 123)



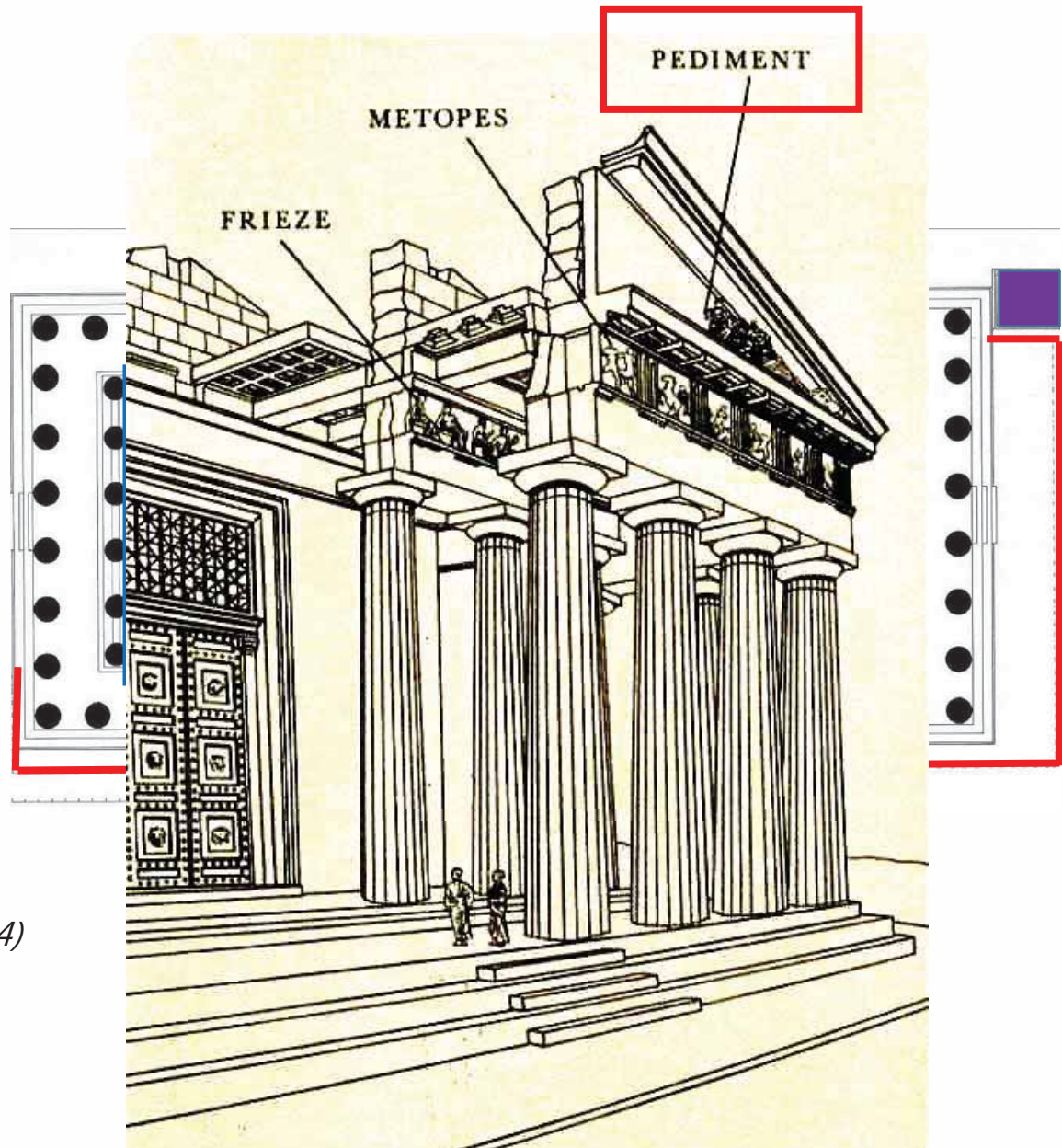
# Parthenon

## The temple

- The main temple is divided into three parts: the **pronaos**, the **cella** and the **opisthonaos**.
- The sculptural decoration of the Parthenon consists of the Pediment, the Metopes and the Frieze.
- There is both Doric and Ionic style.

(Connelly, J. 2016; 125-133,207-254)

<http://www.ysma.gr>



# Parthenon

## *The temple*

A representation of the sculptures of Parthenon



The east pediment - The birth of Athena



The west pediment - The battle between Athena and Poseidon



# Parthenon

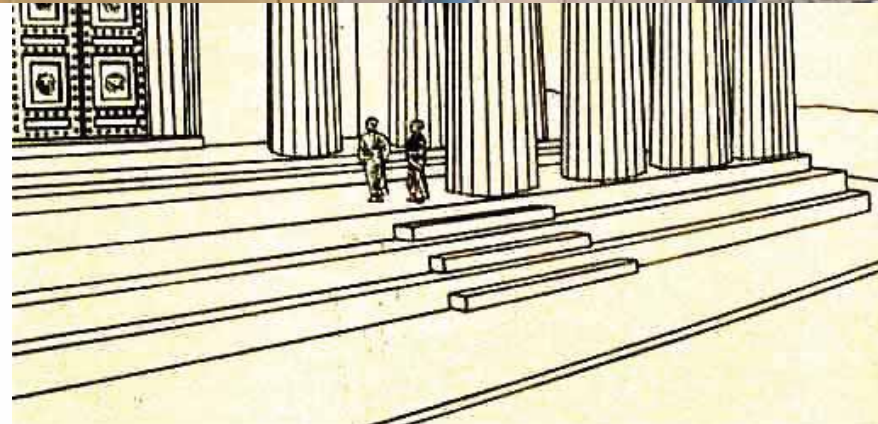
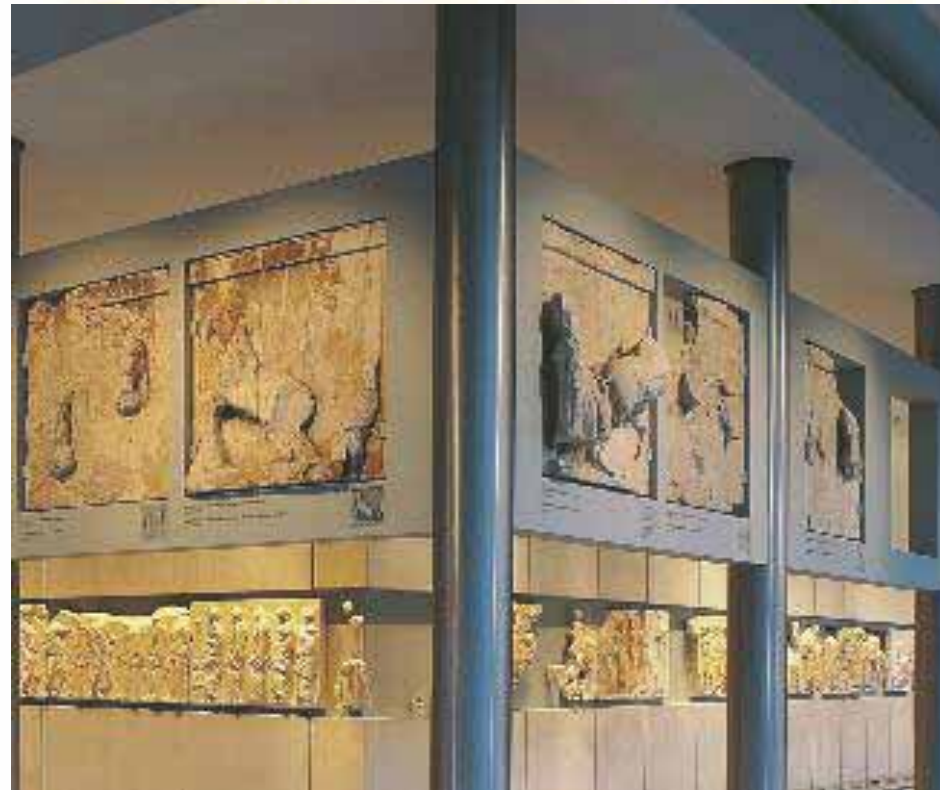
- The East Metope: Is represented the Gigantomachy.
- The West Metope: Is the Amazonomachy.

(Connelly, J. 2016; 125-133,207-254)

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>

## *The temple*



# Parthenon

- The North side of Metope:  
Is represented the Fall of Troy .
- The South side of Metope:  
Is represented the Centauromachy.

(Connelly, J. 2016; 125-133,207-254)

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>

## *The temple*



# Parthenon

The Frieze: Is represented the procession to the Acropolis.

(Demakopoulos, J. 2016;  
125-133, 207-254)

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>

## *The temple*

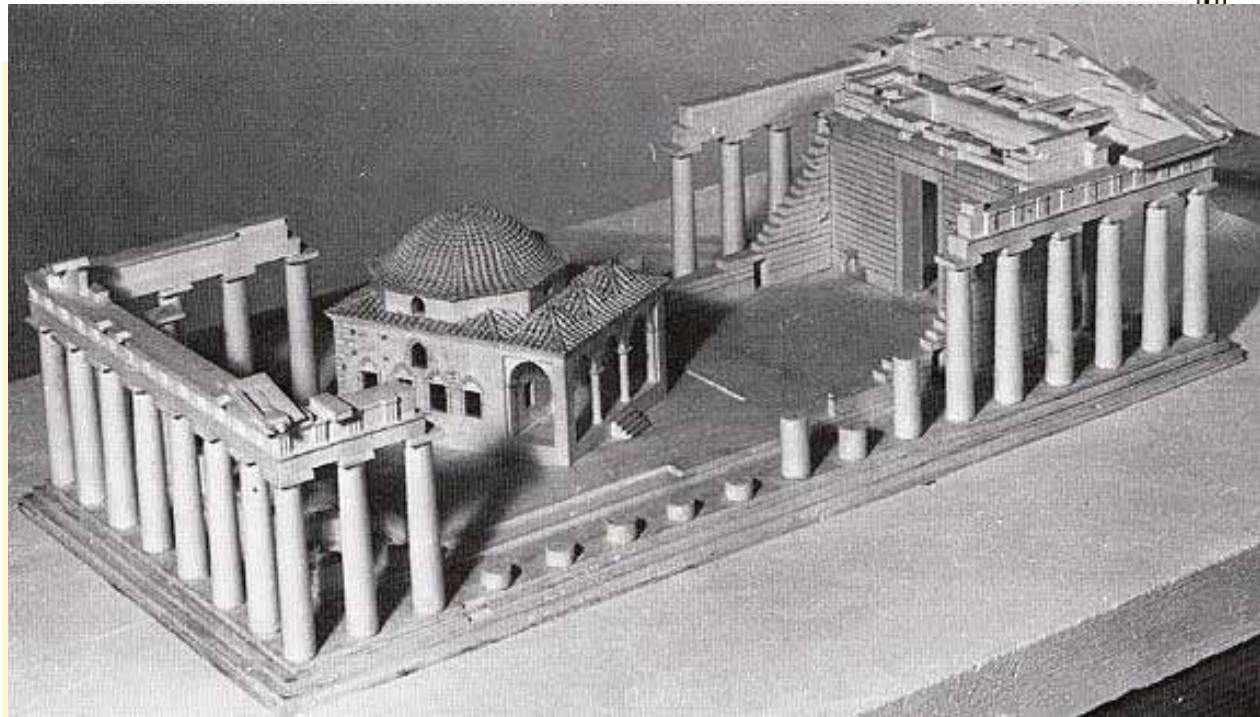




# Parthenon

## *The damage of the Parthenon by the human factors.*

- The fire of 267 CE, probably from the invasion of Heruli.
- The conversion into Christian church in 6<sup>th</sup> century and the add in 13<sup>th</sup> century a tower in the western part .
- The Ottomans in 1456 turned it into a mosque.
- In 1687 the Venetians almost destroyed the Parthenon and only in a part of it ottomans built a small mosque.



(Korres, M. 1994; 138, 312-319)

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>

# Parthenon

In 18th century European travellers went to Athens and visit Acropolis.

They were the first to realize the artistic and historical value of the Parthenon.

A new understanding as an exhibit (Part of the Cultural Heritage).

## *Parthenon in 18<sup>th</sup>-19<sup>th</sup> century*



*(Korres, M. 1994;319-323)*

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>



# Parthenon

- The establishment, in Athens, a company for protection of antiquities.
- In the period of Greek revolution, Parthenon was a symbol of an ancient glory.

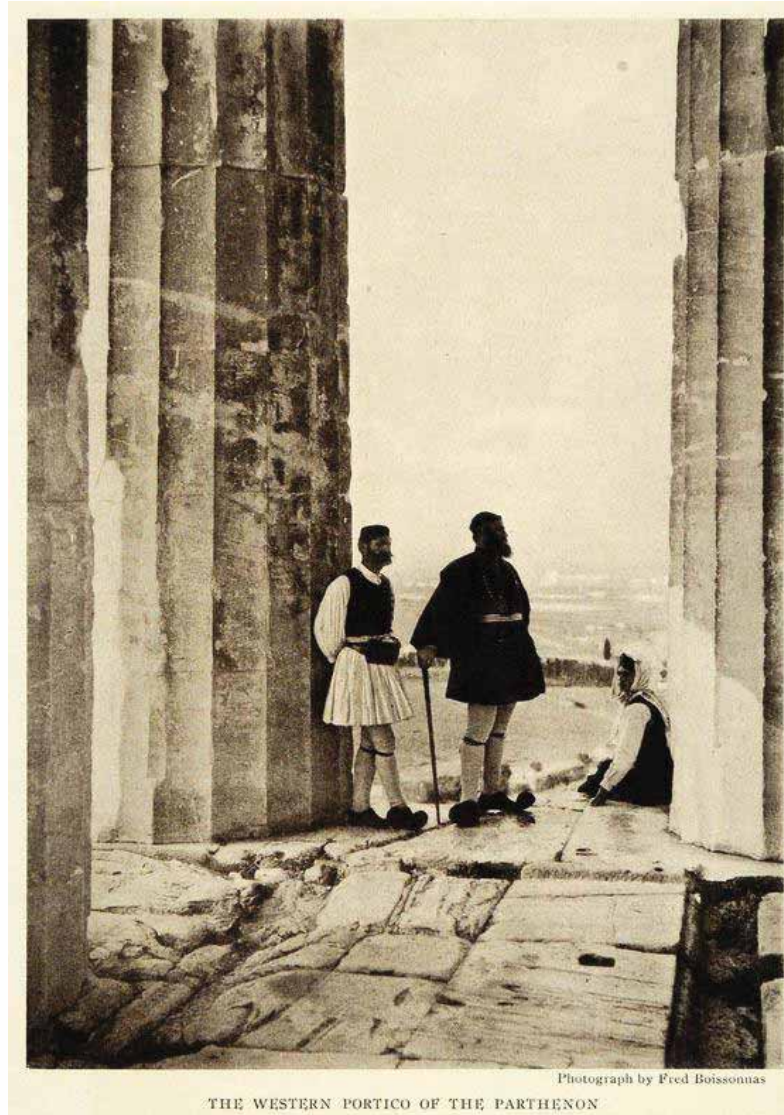
(Korres, M. 1994;319-323)

(Tufano-Mallouchou, F. 2007; 36-40)

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>

## *Parthenon in 18<sup>th</sup>-19<sup>th</sup> century*



Photograph by Fred Boissonnas

THE WESTERN PORTICO OF THE PARTHENON



# Parthenon

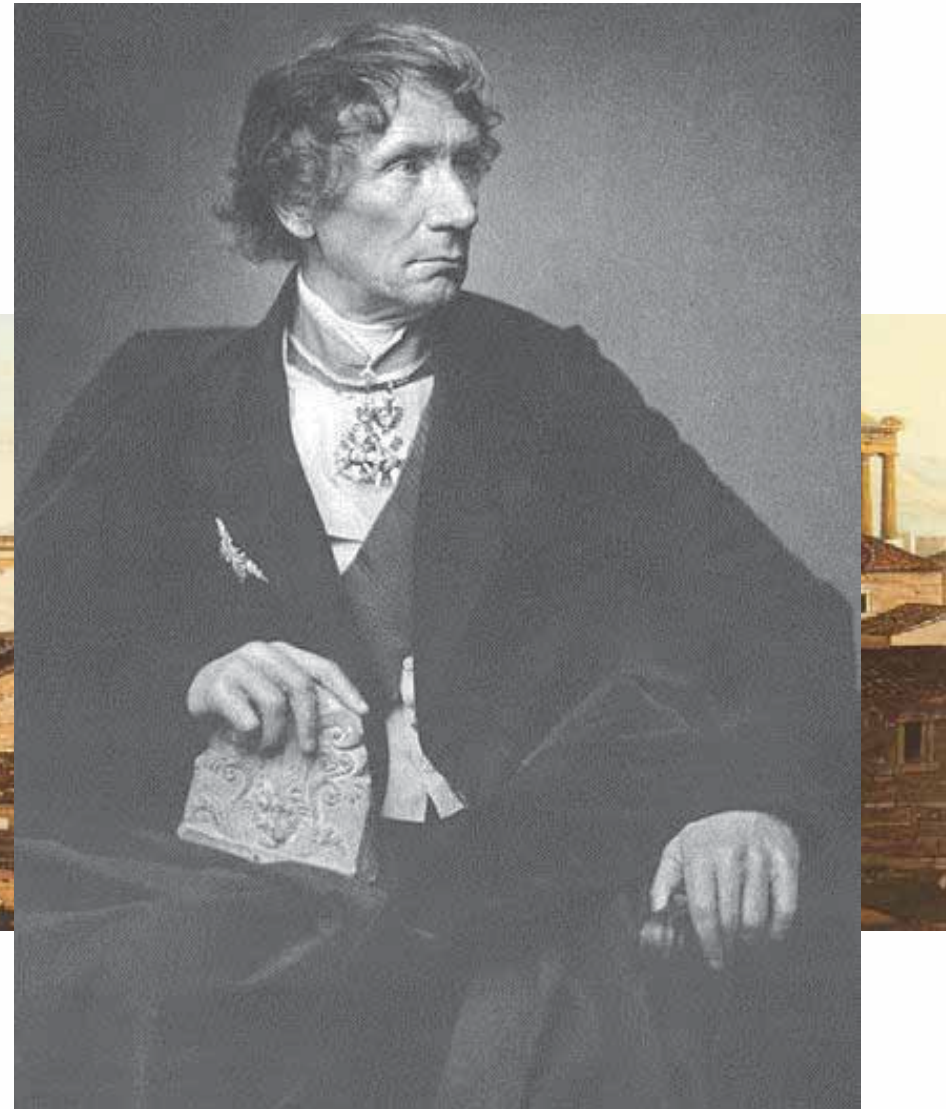
## 1833 - National Regeneration

Leo Von Klenze and the perceptions of his era:

- The cleaning of the era from the new elements.
- Restoration with original ancient building materials.
- Logical additions by eye.

⇒ Preserve the aesthetic of the monument.

Pay small attention to the historical use.



(Korres, M. 1994;319-323)

(Tufano-Mallouchou, F. 2007; 36-40)

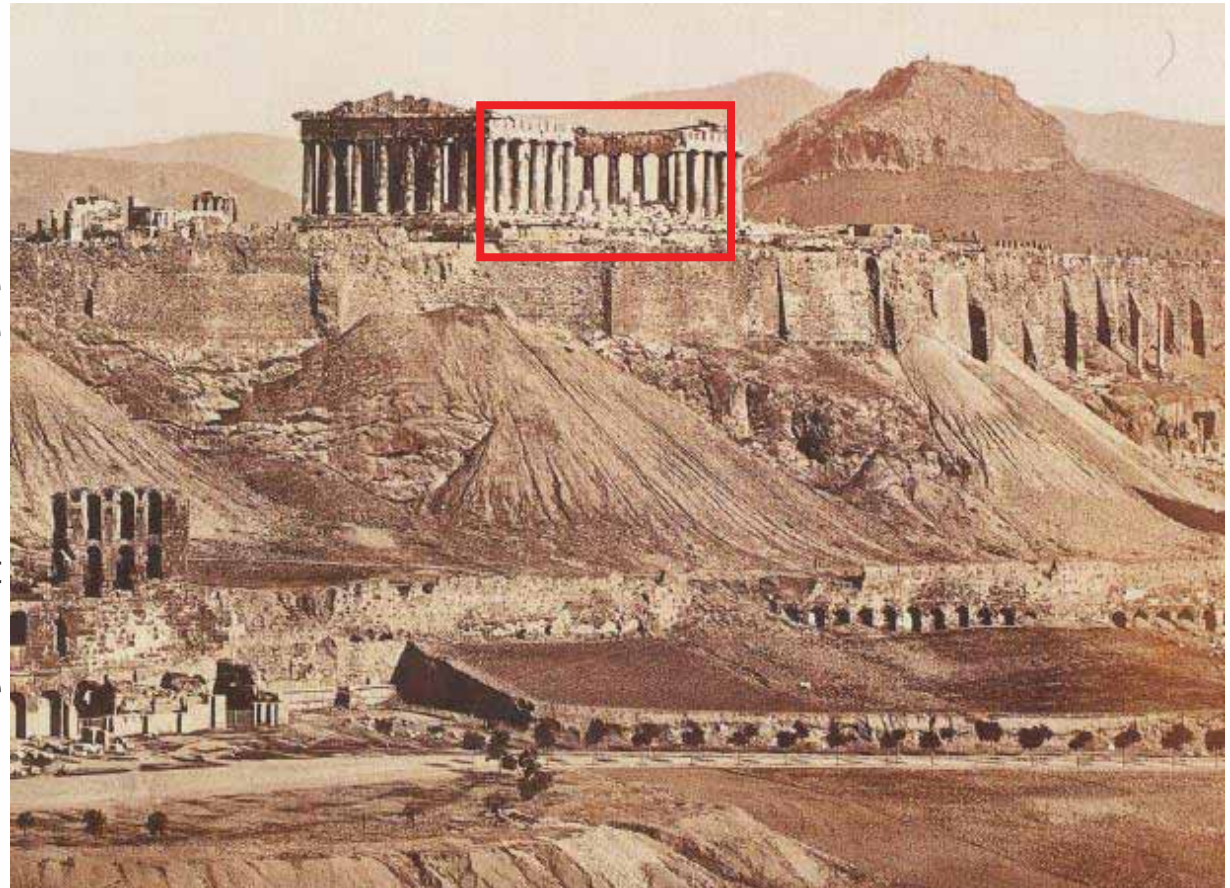
<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>

# Parthenon

## *The first restoration program*

- Between 1842 – 1845 -> Pittakis and Rizos Ragavis were the responsible people for the restoration of the Parthenon.
- They restored 4 columns of cella.
- Similar parts placed at random locations .
- Use of unsuitable materials and spolia.



*(Korres, M. 1994;319-323)*

*(Tufano-Mallouchou, F. 2007; 36-40)*

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>



# Parthenon

## *The second restoration program*

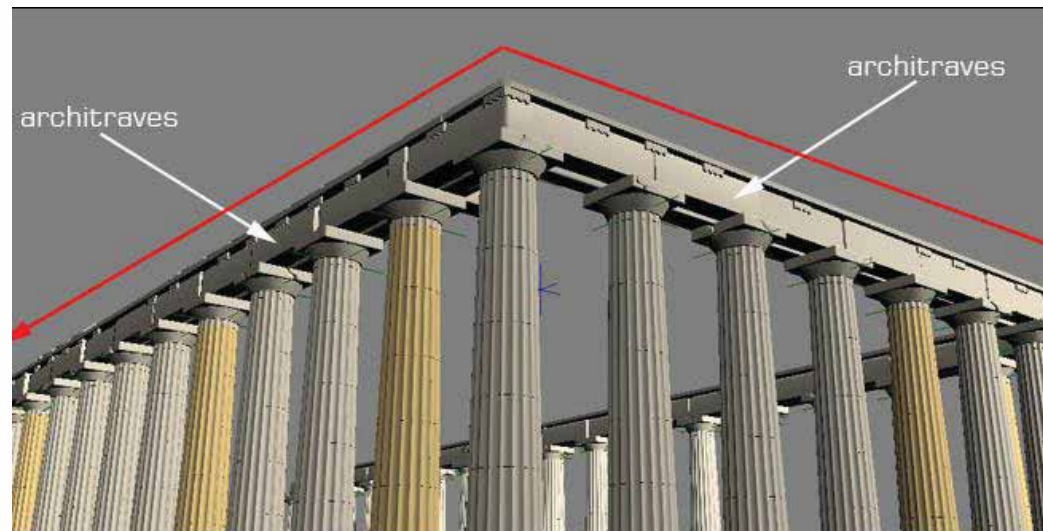
- In 1872 Panagis Kalkou is the responsible person for the second restoration.
- Restored a part of the cella, maintenance of Western frieze and the architraves.
- They made use of unsuitable materials and spolia.

=> A work without documentation and publication.

(Korres, M. 1994;319-323)

(Tufano-Mallouchou, F. 2007; 36-40)

<http://www.ysma.gr>





# Parthenon

## *The first two restorations*



(Korres, M. 1994;319-323)

(Tufano-Mallouchou, F. 2007; 36-40)

<http://www.ysma.gr>

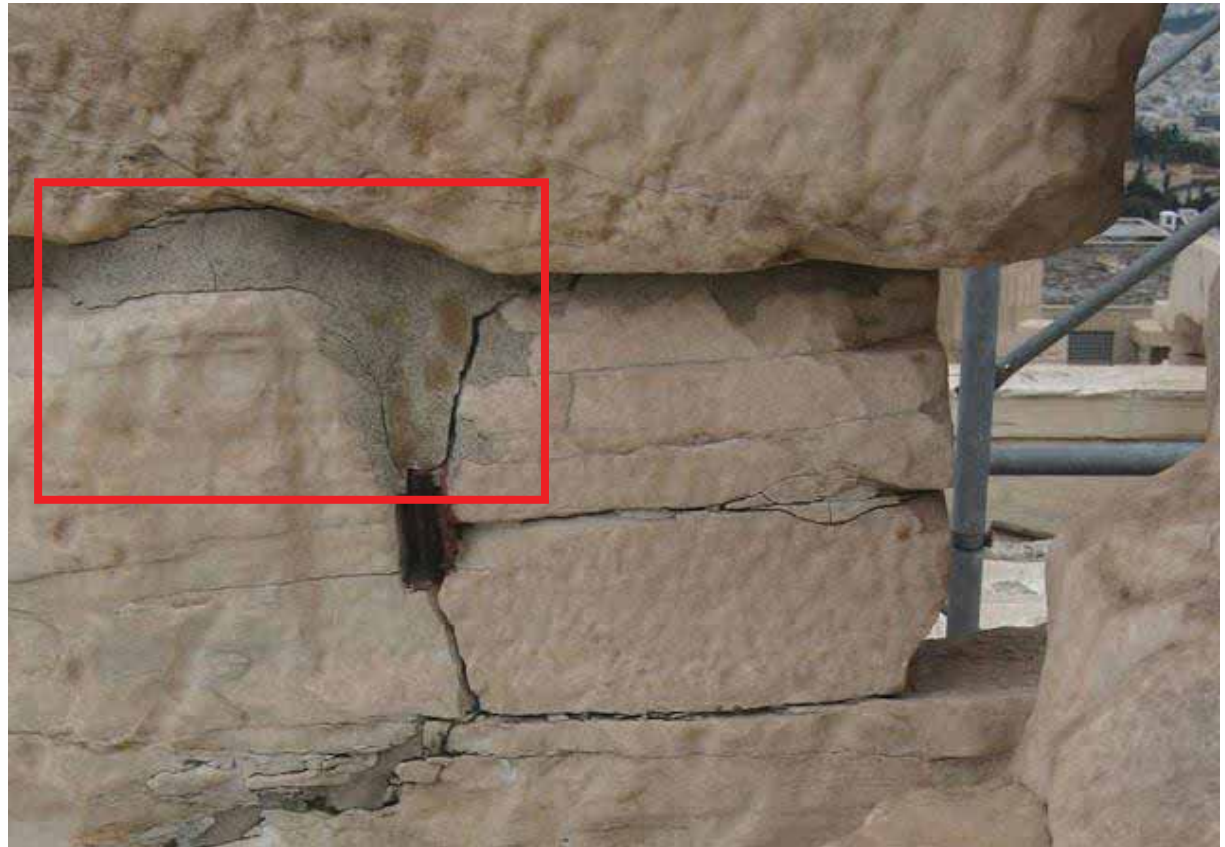
<http://www.theacropolismuseum.gr>

- The Dominate of the empiricism and the prevalence only the ancient materials.

# Parthenon

## *Balanos' restoration*

- Nikolaos Balanos worked on the Acropolis hill for 35 years.
- Balanos did not follow the new practices and he used wrong practices .
- He began in 1894 a conservation projects without supervision by others.
- The use of iron clamps and the expansion of the iron.
- The use of cement mortar.



(Korres, M. 1994; 319-326)

<http://www.ysma.gr>

<http://www.theacropolismuseum.gr>



# Parthenon

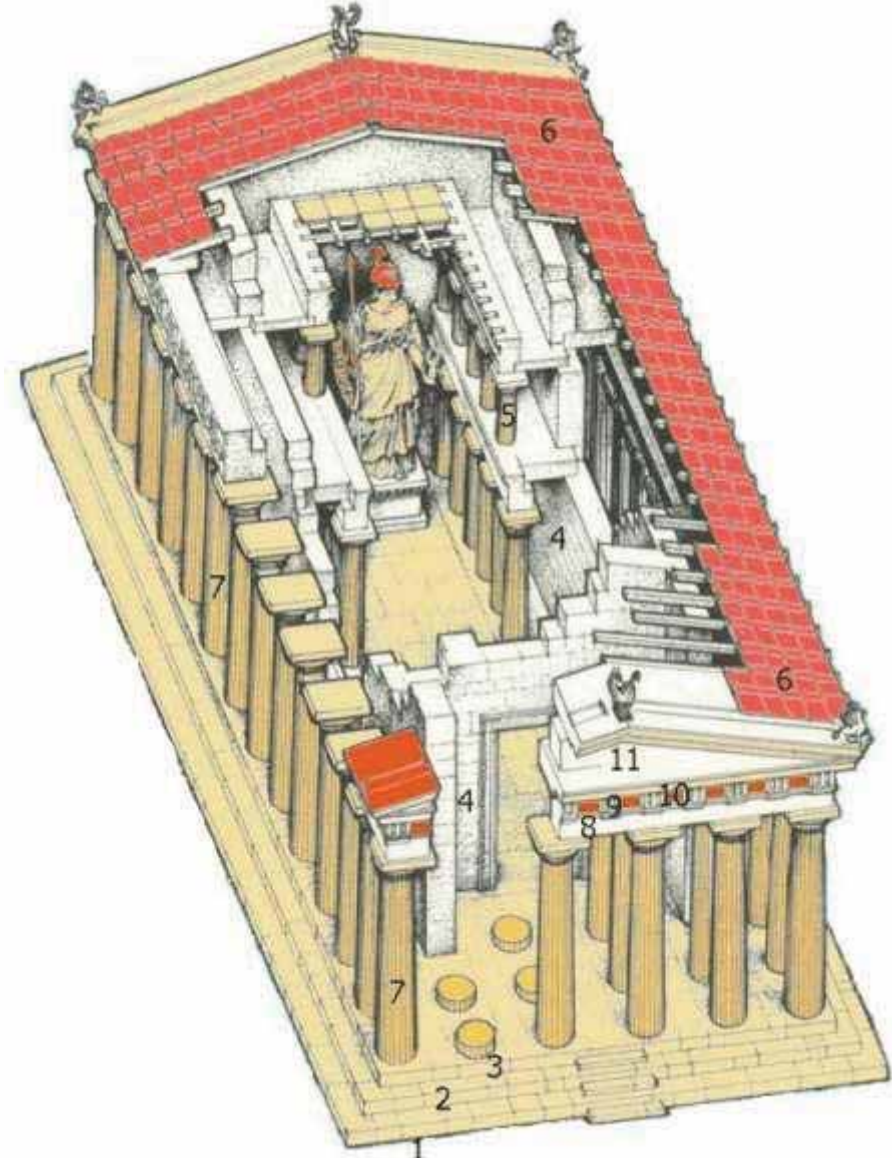
- Orlandos studied the history of the Parthenon (in 1941-1944).
- In 1953 he started to demolish the tower and the staircase.
- In 1964-1967 published various articles for the protection and the preservation of the ancient monuments.

(Korres, M. 1994; 319-326)

<http://www.ysma.gr>

<http://www.eeegacropolis.gr/>

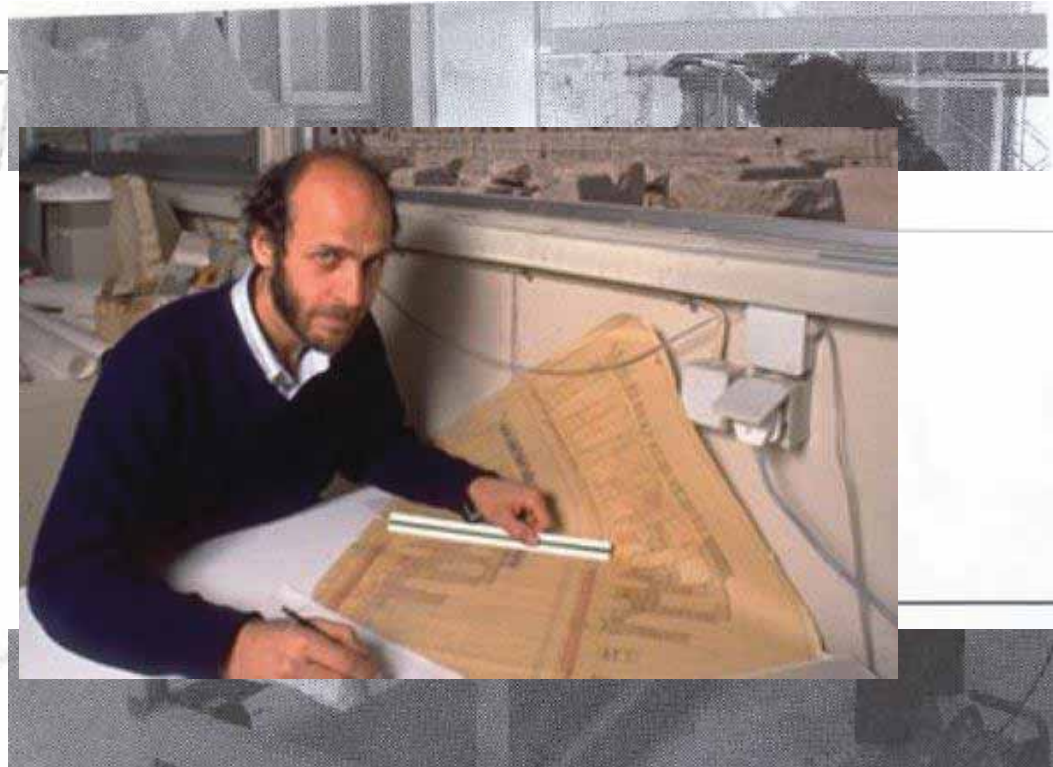
## *The changes between 1935-1975*



# Parthenon

- Many restoration programs on the hill of Acropolis.
- The staff is consisted of professionals.
- People from different disciplines.
- They conducted conferences and reports and they inform the scientific.
- The involvement of Manolis Korres in the restoration of the Parthenon since 1977.

*From the 1975 - 1981*



*(Korres, M. 1994; 326-330)*

<http://www.ysma.gr>



# Parthenon

## *The conservation work from 1981 until Today.*

### Basic Principles of Maintenance:

- They restored the monument in the condition it was before the operation.
- The intervention limited to the parts which have already restored.



*YSMA= The Acropolis Restoration Service*  
(A special peripheral service of the Ministry of Culture)

# Parthenon

- The sections of the monuments that are problematic are dismantled.
- Scattered architectural parts placed in their original position.
- The structural restoration includes the filling of microcracks and gaps.

<http://www.ysma.gr>

(Korres, M. 1994; 326-330)

## *The work of YSMA*





# Parthenon

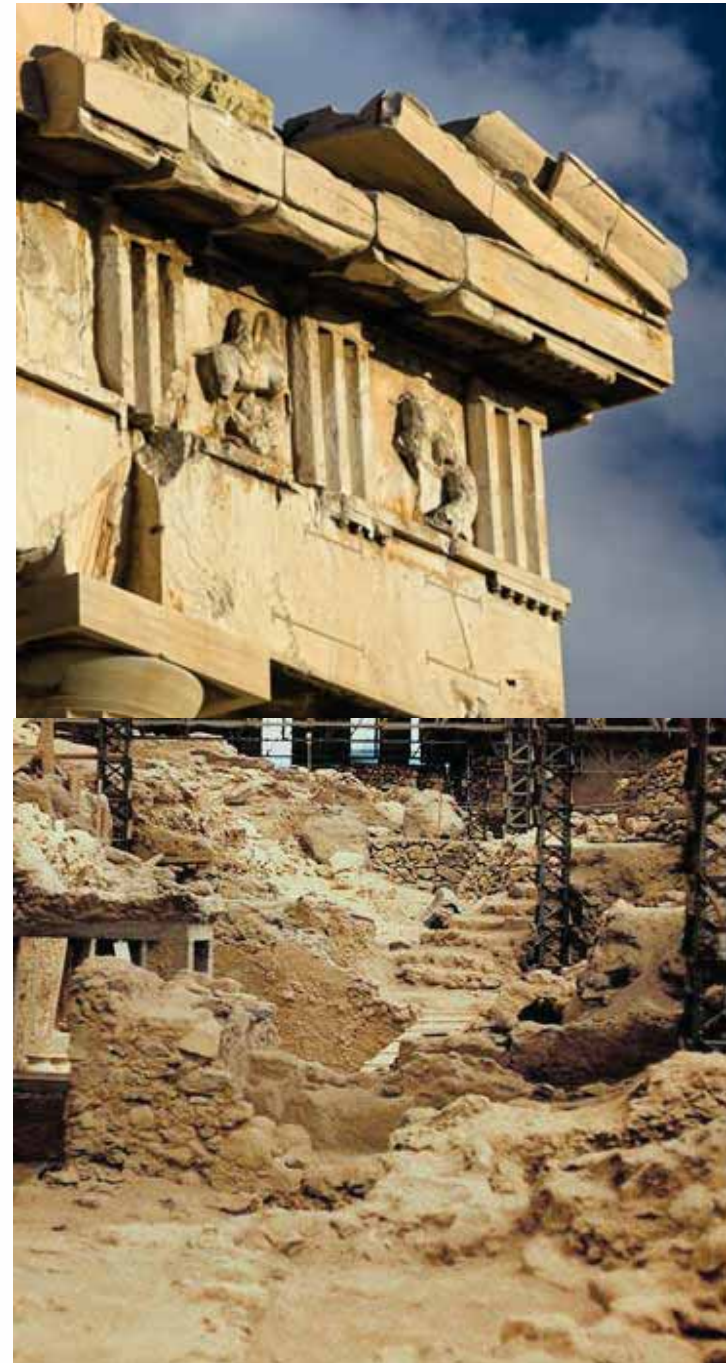
- The work of the stone surface conservation includes their cleaning.
- Scattered architectural parts restored and integrated using titanium rods.



<http://www.ysma.gr>  
(Korres, M. 1994; 326-330)

# Conclusions

- In every conversation two trends should exist in balance. The preserve of the historical evidence of the monuments (layers of landscape) and their character as ruins. Also, preserving should be a practice to improve their form in order to reveal their form in order to reveal their artistic value.
- The conservation of the monument must be preserve their natural environment, in order to maintain the identity of the territory.
- The restoration of the monuments must be based on a multidisciplinary care to save the values and the spirit of the era which built the monument.
- The intervention should be made after extensive study with materials compatible with the original.
- The modern technology should be applied to provide necessary equipment and constructions.
- The archaeological parks need further developed in order to serve special categories of the population.





# *Thank You for your Attention*

