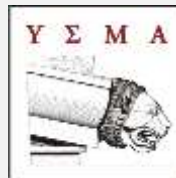




Online interactive application: [The Glafka Project](#)

A slideshow about:

**The journey- The monuments' problems & the reasons for
intervention**



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Information and Education Office

During their 2,500-year voyage through history, the Acropolis monuments have suffered damage and deterioration due to various causes. Let's discover the **causes** and their traces on the monuments!



Earthquakes



Displacement of the drums of a Parthenon column due to an **earthquake**.

Fire



A **fire** caused thermal fracture to a column from the Parthenon.



Frost



When rainwater collects at very low temperatures, it **freezes** and **expands** causing marble to fracture and flake.



Air pollution



Deposits of airborne particles (**soot, dust, metal oxides**) cause discoloration of the marble surface and favor the formation of black crust.



Acid rain



Acid rain contains solutions of various acids formed by atmospheric pollutants. This rain affects the consistency of the crystalline grains in marble leading to marble "sugaring" of the surfaces and transformation of the marble into gypsum.



Bird droppings



Bird droppings leave stains on the marble which, apart from being unsightly, are acidic and damage the marble.



Bacteria, fungi and lichens



Various microorganisms (**bacteria, fungi, lichens**) secrete substances that alter the colors of the monuments' surfaces, exert small pressures and corrode the marble surfaces.



Parasitic vegetation



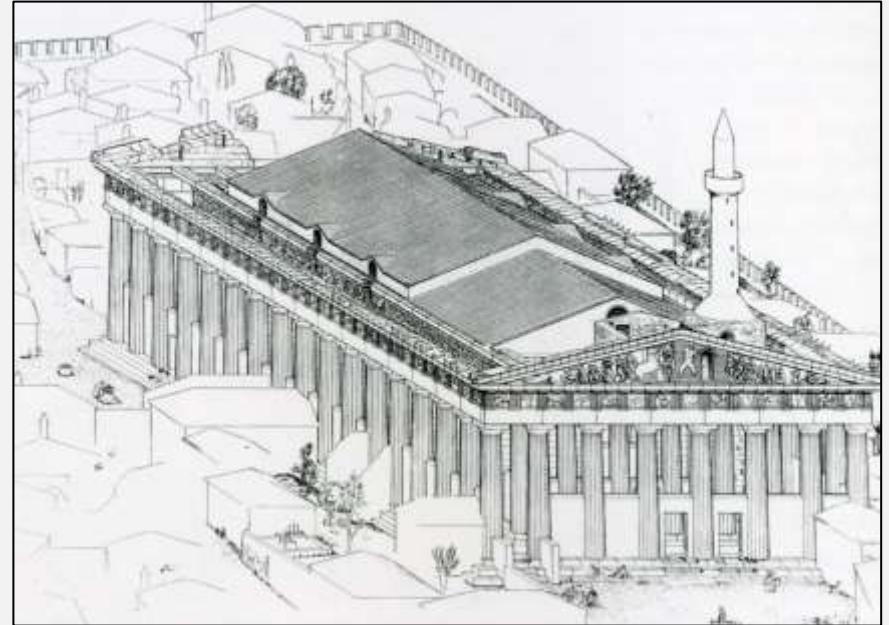
Plant roots erode the marble and cause fractures and flaking of the marble as they grow, as well as expansion of joints and cracks, due to the forces they exert.



Conversion/change of use



The Parthenon converted to a **church**-
East side. Drawing: M. Korres.



During the 17th century, the Parthenon
was converted to a **mosque**.
Drawing: M. Korres.

Vandalism and **bombings** to the monuments inflicted major damage on them, often leaving the monuments in ruins. Let's see, for instance what happened to the Parthenon!



Marks from the **violent hacking** of the figures on metope 10 of the Parthenon, a result of fanaticism against the ancient religion. (4th century A.D.)



The **explosion** of the Parthenon on 1687 during the war between Venice and the Ottomans. Drawing: M. Korres



Traces from **cannon balls** and **bullets** on a column of the Parthenon



Surface created by the **sawing** of stone from the Parthenon frieze by Lord Elgin's workmen (1801-1804)



Marks from the forcible **extraction of lead** for the production of bullets

Many of the problems faced today on the Acropolis are due in large degree to the **failure of the interventions between 1896 and 1940**. Those projects had as their aim, aesthetic restoration and reconstruction rather than the conservation and consolidation of the monuments.
Let's find out the causes of the problems!



The **use of ordinary iron** for joining together broken architectural members or to reinforce the strength of others caused, not only marble cracks....



... but also oxidation, swelling and immeasurable damage onto the architectural members.



Poor reuse of ancient members. Four sections of different column capitals combined to form one.



Use of construction material for supplements of architectural members



Use of concrete, cement and mortar for supplements of architectural members and also for joining together fragments.



Find out more about the Acropolis Restoration Project:

Visit Acropolis Restoration Service website:

www.ysma.gr

Play with Glafka , the Acropolis flying robot:

<http://www.ysma.gr/theglafkaproject/>

Learn about the restoration of Acropolis monuments:

http://repository.acropolis-education.gr/acr_edu/handle/11174/316