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.
A fire caused thermal fracture to a column from the Parthenon.
When rainwater collects at very low temperatures, it freezes and expands causing marble to fracture and flake.
Deposits of airborne particles (soot, dust, metal oxides) cause discoloration of the marble surface and favor the formation of black crust.
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 leave stains on the marble which, apart from being unsightly, are acidic and damage the marble.
Various microorganisms (bacteria, fungi, lichens) secrete substances that alter the colors of the monuments' surfaces, exert small pressures and corrode the marble surfaces.
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.
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