A PILOT PROJECT AERIAL STREET VIEW TOUR AT THE VALLEY OF THE TEMPLES (AGRIGENTO)

UN PROYECTO PILOTO DE STREET VIEW AERIAL TOUR EN EL VALLE DEL LOS TEMPLOS (AGRIGENTO)

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Abstract:

The aim of this paper is to offer a preview of the pilot project in progress at the Unesco site Agrigento Valley of the Temples (Italy). Thanks to a partnership with Google Business Photos/Street View Indoor, we managed to map the Temple of Juno Lacinia, the only temple that can be visited online on a 360° tour on a Google platform, browsable inside. Also some POIs will be selected which can be clicked and explored, taking captions in Italian and in English languages with descriptive sheets of architectural and decorative elements, videos and aerial virtual tours realized with drones.

Key words: virtual archaeology, virtual heritage, cultural heritage, Google, Greek archaeology

Resumen:

El objetivo del presente artículo es ofrecer una vista previa del proyecto piloto en curso en el Unesco sitio de la Agrigento Valle de los Templos (Italia). Gracias a la asociación con Google Business Photos/ Street View Indoor logramos un mapa de el Templo de Juno Lacinia, el único templo que se pueden visitar en una plataforma de Google en una gira 360°, navegable interior. También se seleccionará algunos puntos de interés que puede engancharse y explorado, teniendo subtítulos en idiomas italiano y Inglés con fichas descriptivas de los elementos arquitectónicos y decorativos, videos y visitas virtuales realizados con aviones teledirigidos.

Palabras clave: arqueología virtual, herencia virtual, herencia cultural, Google, arqueología greca

1. Born of the pilot project

This project was born in collaboration with Mr. Gianfranco Guccione, a certified Google Business Photo photographer, to "increase" fruition and enhancement of Sicilian cultural heritage.

It was decided to choose as a sample of this pilot project two cultural regional institutions.

The very first example of this project has been carried out at the "Paolo Orsi" Regional Archaeological Museum in Syracuse, now browsable at the museum link http://www.regione.sicilia.it/beniculturali/museopaoloorsi/ google-maps/museo-paolo-orsi-siracusa-primo-piano/index.php (Bonacini 2015).

The second one is the Valley of the Temples in Agrigento, that is the very first UNESCO Sicilian site since 1997 and, with its 1300 hettars (Fig. 1), the bigger archaeological park in the world.

The project at the Valley of the Temples was then structured as a research fellow project at the University of Catania and carried out in close collaboration with the staff of the Archaeological Park. The ultimate goal of our projects is to begin to solve the Sicilian cultural heritage gap on the web (Bonacini 2015: 155-156).
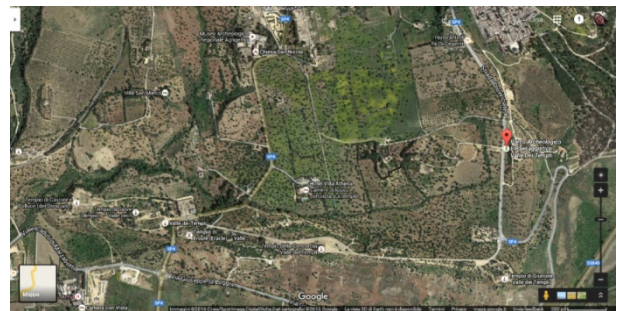

Figure 1: The Agrigento Valley on Google Maps, Italy.

Here we are going to present a Street View level virtual tour in progress, regarding a portion of the Valley with the Temple of Juno Lacinia, "augmented" by virtual aerial tours, videos and the addition of description, photos and virtual tour of the ancient temple.

2. The Temple of Juno Lacinia

The Temple of Juno Lacinia stands on top on a raised spur, in large part artificial, in the South-East corner of the Valley of the Temples (Fig. 2). It was built in local yellow limestone in the middle of the fifth century BC, about the year 450 BC, and it belongs to the Doric style (Mertens 2006: 386-390). The building, facing East (Fig. 3), is around 38.15 metres long by 16.90 metres wide; it has 6 columns on the short sides and 13 on the long ones (it is an hexastyle peripteros, for a total of 34 columns), resting on a crepidoma of 4 steps, according to a Greek homeland canon used both for this temple and for the most famous Temple of Concord.
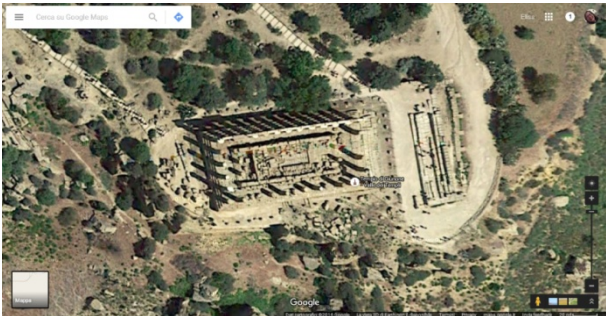

Figure 2: The Juno Lacinia Temple on Google Maps, Agrigento, Italy.

Figure 3: The hill with the Juno Lacina Temple, Agrigento, Italy.

The interior of the temple is the cella (naos), the inner area that was used to house the hidden cult image of the God. The entrance was manumentalized by a pronaos (this is the so called antis type), that is mirrored by the opisthodomos at the back - both framed by 2 ranks of columns (distyle). Stairs were built into the wall, separating the naos from the pronaos, perhaps used for the inspection of the roof or for religious purposes.

The temple was restored at the end of III century BC, when Sicily become a Roman province: the original marble roof was being replaced by one made of terracotta tiles.

The building has been being restored using anastylosis since the eighteenth century: today, after 30 columns are standing but only the northern colonnade with the architrave and part of the frieze is completely preserved; only 16 columns stands with their capitals. In front of the eastern face are the remains of the ancient altar.

3. The pilot project at the Temple of Juno

A photographic survey began with the aim of mapping all the area of the Temple of Juno Lacinia. We worked with the full cooperation of the staff of the Archaeological Park, in particular director Arch. Giuseppe Parello and Dr. Maria Serena Rizzo.

Mr. Guccione used a mobile station made up by a reflex camera with fisheye type camera lens, tripods with panoramic head. We chose clear days, to avoid sudden cloudiness during the shots and take in its best the yellow-pink color of the stone.

We present here some pictures from the backstage shooting (Figs. 4 y 5) and some screenshots of the virtual online tour (Fig. 6 y 7). We photographated all the areas around the temple in all its perimeter and, finally, also its inside to make it possible, for the first time ever, the virtual tour of a Greek temple inside. We hope the remote user could perceive the same emotion that we felt upon entering the cell of the temple, seeing the blocks closely, while running across the walkway along the side of the cell, between it and the columns, until getting a look over the opisthodomus' side and admire the Valley with the Temple of Concord in distance at the bottom, following a not allowed path in a traditional visit.

Figure 4: The Juno Lacinia Temple pilot project backstage.

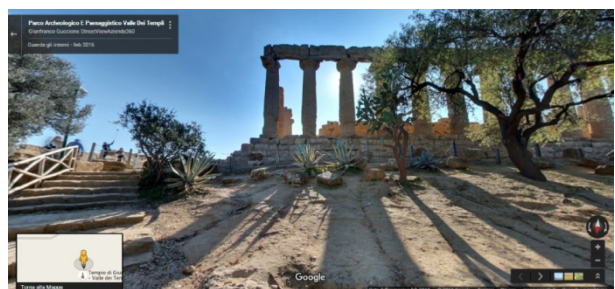**Figure 5:** The Juno Lacinia Temple pilot project backstage.

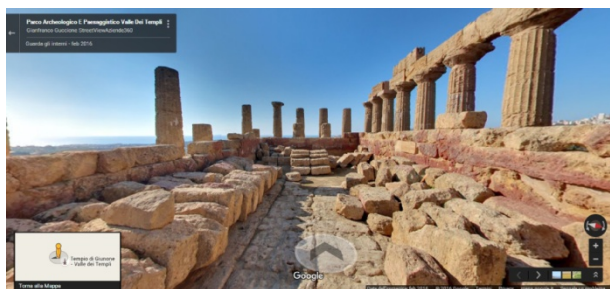**Figure 6:** The Juno Lacinia Temple virtual tour on Google Street View.

Figure 7: The virtual tour of the cella of the Juno Lacinia Temple on Google Street View.

Once loaded on Google's software, the pack of images were geolocated in Street View, mounted avoiding defects of sight between the images: the traditional Street view 360° virtual tour is here https://goo.gl/maps/KJxK7NGgSfy, where the remote user can browse and enter in the temple.

We are going to "augment" this traditional street view tour through a POI with general information on the Valley, POIs about the Temple, its architectonic details and the educational panels along the route. Captions will be both in English and in Italian languages, as in the "Paolo Orsi" Museum project.

The project will provide the opportunity to carry out a 360° "augmented" virtual tour, innovative compared to what has been previously seen on Google's platforms: the aerial virtual tour will allow the virtual visitor to browse the temple with a never seen perspective.

4. Conclusion

The use of satellite imagery for scientific research has dramatically improved. Maps tools like Earth and Street View increase, for e.g., the functionalities in virtual globes for geographic studies at the global scale on environmental changes (Yu and Gong 2011).

After aerial photography and satellite imagery used in the last century (Parcak 2009), Google Earth and its maps tools, as scholars state (Meyers 2010; Thakuria et al. 2013), become the faster and publicly available tool for archaeological research to acquire vertical perspectives on archaeological landscapes and locate and identify ancient sites, or, to reconstruct 3D models on Earth (Lonneville et al. 2015) and disseminate archaeological data (Welham et al. 2015).

This project is an example how to increase access to the world of art and culture and to improve visit experiences through Google multimedia solutions.

We can rightfully say that it is the first archaeological temple in the world and the first archaeological monument in Sicily entirely browsable on Google Maps platforms with a traditional virtual tour, also inside, and with an aerial 360° virtual tour with integration of captions and description of architectural elements. In that a way, we can give the user two levels of understanding, both for who lacks specific skills and for who wants to examine artworks in a more intimate perception and a closer knowledge.

The integration of Google web platforms with mobile devices through Street View and Google + services, can enable users to visualize multimedia facilities (POIs with 360° virtual tour and captions) even when they are walking around and looking at the temple: combined with Qr codes or sensor technologies, traditional captions allow those who are physically visiting the Temple of increase their visit by accessing depth digital contents.

Finally, the possibility to display a 360° virtual tour through cheapest devices for immersive visualization, such as Google Cardboards, may allow to further "augmented" the in situ visit of the Temple, by providing its internal digital accessibility.

In the near future we hope to allow 360° "augmented" visualization of all the Temples and archaeological evidences of the Valley, with their accompanying captions in audio version.

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