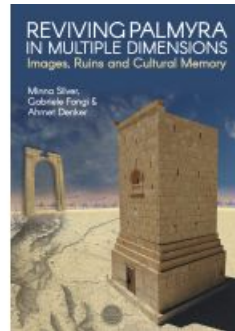


# *VISUALISING THE PAST THROUGH IMAGERY, ARCHAEOLOGY AND HISTORY*

## The Digital Revival of Ancient Palmyra



The fate of Palmyra, an oasis city in the Syrian Desert, has been vividly transmitted to us by satellite technology in recent years. Through satellite imagery and televised news, we have seen priceless ancient monuments at this World Heritage Site pulverised in front of our eyes. These events could not have been

followed without remote sensing. Recording and documentation also play a role in conservation, preservation and reconstruction; archaeological 'digging' in the digital data collections provides the information necessary to reconstruct the sites and monuments using 3D or 4D technology, reviving the memories of the time before invasions and conquests.

The site destruction in Palmyra was carried out from 2015 to 2017 by ISIS, a jihadist Islamic group that during the last few years occupied large parts of Syria and Iraq. These events could not have been followed without remote sensing. The ancient city represents collective historical and archaeological memories, and its destruction causes additional memories through our visual perception. It becomes part of our experience that causes distress but is a part of our recollection – there is the memory of the place before and after the destruction.

### **New ways to extract information**

Archaeological remote sensing with satellite imagery has been around for decades to help us, even if some media coverage has recently presented it as a brand-new field. Remote sensing using aerial photographs in archaeology is an even older field of inquiry, over a hundred years old. It first employed cameras from kites and balloons, and later from aeroplanes. Archaeologists are constantly developing and learning new ways to extract information from image- and range-based data captured from air and space. Remote sensing especially has provided a vital kit of tools for archaeologists and cultural heritage professionals in the Near East. The value of such a kit is recognised when we try to find new sites and in war-torn areas aim to assess damage, plan site protection and preservation.

### **Digging in digital data**

Our key question concerns what is left. Recording and documentation are needed for conservation and preservation; the information collected before an episode of destruction and preserved has to be traced and retrieved to revive the sites and monuments, even in their previously ruined state. There can be information from various 'layers' in time that needs to be collected and studied. This means archaeological digging in our preserved digital data collections that provide the information and enable memories to be revived of the time before invasions and conquests. Those data can be fused to impart new life to the memories of the old and provide some collective healing by experiencing the monuments and sites through 3D technology, or even moving around in virtual spaces in 4D. Use of such information and reconstruction of the site 'memory' with digital data facilitates recall and helps to provide small substitutes for the loss.

## Reviving Palmyra

A new book [Reviving Palmyra in Multiple Dimensions: Images, Ruins and Cultural Memory](#) by Whittles Publishing (UK, 2018) provides a collection of data that an archaeologist-historian, a geomaticist-photogrammetrist and an electrical engineer have put together.

Their contribution helps to preserve our common cultural memory and provide healing with diverse archaeological and historical information using photographs, drawings and 3D models as well as virtual worlds to revive Palmyra. The book provides a plethora of old photographs and architectural drawings beside new digital images. This is especially a visual account that is meant for everyone, from those wishing to explore Palmyra or those professionals who need to find data for their conservation and reconstruction work.

## First-hand knowledge

The book provides first-hand knowledge from the site, where archaeologist-historian Ad. Prof. Minna Silver worked with the Museum of Palmyra for a decade and where geomaticist-photogrammetrist Prof. Gabriele Fangi visited with his students and colleagues just before the outbreak of civil war in Syria in 2011. Dean, Prof. Ahmet Denker, the electrical engineer, has lived all his life in the Near East and as a native in the region provides the inner and virtual views to the area. Silver and Fangi belong to the UNESCO roster of Syria experts as well as to the executive board of CIPA heritage documentation under ISPRS (International Society of Photogrammetry, Remote Sensing and Spatial Information Sciences) and ICOMOS (International Council on Monuments and Sites under UNESCO).

▫ [Reviving Palmyra in Multiple Dimensions: Images, Ruins and Cultural Memory](#)

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<https://www.gim-international.com/content/article/the-digital-recollection-of-ancient-palmyra>

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