

**THE HATRA PROJECT. A PROPOSAL FOR THE CREATION OF DATABASE COMPRISING THE WHOLE OF THE CITY'S ARCHAEOLOGICAL RECORDS.**

L. Cordera <sup>(a)</sup>, R. Ricciardi Venco <sup>(a)</sup>  
<sup>(a)</sup> Università degli Studi di Torino – Dipartimento SAAST  
Via Giolitti, 21/e – 10123 Torino – Italy  
Email: lacordera@libero.it, roberta.venco@unito.it

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**ABSTRACT**

The historical significance and architectural splendour of Hatra are widely acclaimed. The site is a walled Arab city in Northern Mesopotamia with extraordinarily well-preserved monuments dating back to the 2nd and 3rd centuries A.D.

The aim of our project is to collect, organize and preserve the huge amount of data already generated by archaeological researches on the site.

The material to be catalogued comprises graphic, photographic and written documents about the site's topography, architecture, excavations, restorations and finds. It is thus essential to design a DB with an open architecture and integrable with other types of information (such as cartography, plans, photos).

The archives must be entered in a GIS platform in order to organize the enormous and heterogeneous amount of data and render them easily accessible.

Data analysis will furnish a more complete picture of the history of Hatra and show where information is lacking. It will also enable an estimate to be made of the damage that has already occurred and the present threats, so that appropriate measures for its future safeguarding and management can be planned.

**INTRODUCTION**

The project stems from the need to arrange and store the enormous and heterogeneous amount of data relating to Hatra collected by the Italian expedition as well as published by other scholars.

Its urgency is obviously accentuated by the present state of affairs in Iraq. The aim is thus to gather as much information as possible and hence make a contribution, if required, to emergency plans for safeguarding and managing the site.

The archives should be entered in a GIS designed to ensure inter-relation of the data and reconstruction of the many sides of their informative context.

**1. HISTORICAL BACKGROUND**

Hatra is a large Arab city in the Jazirah, a region between the Euphrates and the Tigris in Northern Mesopotamia composed of undulating steppe, low ranges and closed basins - the largest is Wadi Tartar, a semi perennial stream to the North of the city. Now, as in the past, the area is inhabited by nomad and semi nomad Bedouins with their flocks. Hatra itself and its surroundings enjoy the benefits of a shallow water table and small superficial rivulets, while hundreds of wells still remain within the ancient city. It may thus be supposed that nomadic tribes began to settle here in post-Assyrian times.

Hatra, indeed, was not an isolated site and there are smaller settlements nearby.

The area was crossed by lines of communication that linked Syria with the Tigris and Mesopotamia. Trade was not one of Hatra's main activities, though it may have been a stopping place on a secondary route and benefited from its position. The Tabula Peutingeriana, in fact, shows it as a station on the routes that cross the Jazirah.

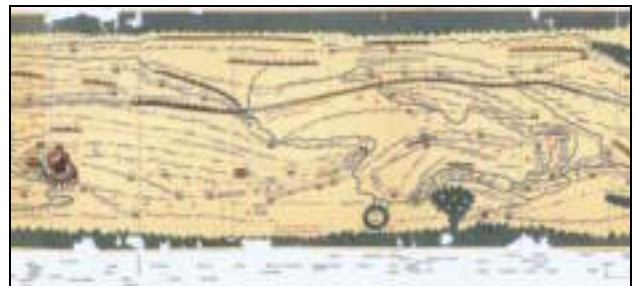


Figure 1. Tabula Peutingeriana (mediaeval copy of a road map compiled during the Roman Empire). *Segmenta X-XI*.

Hatra was the main town in the Jazirah probably the "Arabaya" of the inscriptions, it was ruled by a line of local kings. Its political and social organisation are not very clear, though the fact that its rulers are called "King of the Arabs" or "King of the Arab region" suggests that both the settled and the nomadic tribes were their subjects.

Hatra's strategic importance stemmed from its position as a buffer state between the Roman and the Parthian Empire. Independent, with its own coinage, its political and cultural leanings were towards Parthia.

Besieged without success by Trajan and Septimius Severus at the beginning and end of the 2nd century, Hatra was eventually captured by the Sassanians (AD 240-241) and then gradually abandoned.

**2. HATRA, THE PRECINCT OF THE SUN GOD**

Hatra's development began around a sacred area that seems to be the origin of its name: Hatra of Shamash, Precinct of the Sun God.

A Polish expedition, in fact, has recently shown that a town of some 65-80 hectares and encircled by fortified walls had grown up around an already large sacred area, possibly in the second half of the first century.

After Trajan abandoned his siege of what Dio Cassius called "a

small, not prosperous town" on account of its impervious region and harsh climate, the Hatreans set about the construction of a bigger city with a fortified enclosure and a larger sanctuary. The sub circular, mud brick enclosure was erected around the main water sources and the tombs on a stone base and included more than 160 square hollow towers and a main gate at each cardinal point. Its circumference is about 6 km and it covers 300 hectares.

Dio Cassius also describes this new city as it was when Septimius Severus tried to take it in AD 198, and says that it is very rich owing to the gifts presented to the Sun Sanctuary.

It was during the second century, in fact, that the Sanctuary acquired its impressiveness and its present size.

There is still a rectangular enclosure (320 x 435 m) occupied by the main temples. The huge size of the eastern court (about 10 ha) indicates that it may have been a sanctuary visited by pilgrims from other regions. This would explain the impressive richness that characterises not only the main shrine but also the city as a whole.

Most of the temples bear inscriptions with 2nd-century dates, but some shrines devoid of any date display peculiar technical features and may thus be earlier.

The present sanctuary is the result of approximately 150 years of building with continuous remaking and decorative improvement.



Figure 2. Aerial photo of the Sacred Enclosure in the centre of the city, as seen from the NE in 1930.

The most impressive temple is the complex of the Great Iwans (already present in AD 110). Its 115 m façade is pierced by broad archways leading to the places of worship. Its decorations display Western influences, though the way in which they are used and blended with figured elements derived from other sources has resulted in a unique assemblage that has not yet been studied in depth.

Examination of the architectonic features and the simultaneous presence of different motifs and their location and composition in these cult buildings could reveal both changes in the decorative pattern of Hatra's temples and any hitherto unpublished stages in the erection and decoration of the Sanctuary itself.



Figure 3. The façade of the Great Iwans from the SE after 1990s restoration.

Many smaller shrines were built, probably by the tribes which inhabited Hatra and the surrounding area. The architecture of the 14 excavated so far is in keeping with the early Mesopotamian tradition, though partly contemporaneous with the Great Iwans. Their ancient Mesopotamian deities, on the other hand, were not venerated in the great central Sanctuary. All the temples have yielded many finds, especially sculptured effigies of deities and life-size figures of worshipping kings, princes and princesses and local worthies.

The connection between these finds, together with the many inscriptions that give some idea of Hatra's social life, and the temple itself and its architecture has not been established. Assembly and linking of the data and their relationship with the city as a whole and its development may provide the starting points for new lines of research.

Parts of Hatra within its present circle of walls, in fact, are not covered with buildings, though stages in their occupation can be discerned. Examination of air and satellite images and comparison with the existing data will produce interesting findings, some of which are just beginning to emerge.

Virtually nothing is known about the previous sanctuary because it lies under the standing temples: a NS mud brick wall with inner rooms uncovered during small soundings at the back of the Great Iwans probably enclosed a much smaller sacred area. A stone wall obliterating the mud brick one, is earlier than the Great Iwans and seems evidence of the expansion of the sacred area to almost its present size. The stratigraphic data will be compared with the scattered references to the previous sanctuary in the literature.

Hatra is one of the best preserved sites in the Middle East and was entered on the World Heritage List in 1985.

It has been the subject of books and articles published by scholars from many countries in Arabic, English, French, German, Italian, Polish and several other languages since the site was first investigated at the beginning of the 20th century.

The significance of Hatra as a bridge between East and West is plain for all to see, not only those who specialise in the study of Parthian history and culture.

Yet, as is often the case when the buildings of a site and its finds are well preserved, research has been piecemeal and lacks a thorough historical and cultural synopsis embracing and interweaving the mass of data already available.

### 3. ARCHAEOLOGICAL INVESTIGATION AT HATRA

Since the middle of the XIX century, the ruins of the city of Hatra have been mentioned and recorded by Western scholars

and travellers.

Its final stage, in fact, has been exceptionally preserved, so much so that Prof. Walter Andrae, director of the German Expedition at Assur was able to publish, at the beginning of the twentieth century, without any excavation, two books on its architecture and monuments with photos and a plan of the city that is still in use.



Figure 4. Plan drawn by Prof. Andrae in 1911.

Excavations directed by Prof. Fuad Safar and Mohammed Ali Mustafa were started by the Iraqi Department of Antiquities in 1951 and investigations and restoration works have continued ever since. The religious aspect of Hatra has attracted the most attention. The temples in the Great Sanctuary and their small counterparts in the built-up area have been brought to light. Some dwellings, tombs and a part of the city wall have been excavated. The results of the Iraqi excavations down to 1973 have mainly been published in Arabic by Prof. Fuad Safar and Mohammed Ali Mustafa in "Hatra. The City of the Sun God". In 1990, an expedition from the University of Warsaw, directed by Prof. Michal Gawlikowski, investigated the E walls previously excavated by the Iraqis. A short excavation provided the first evidence of the original city wall. Its preliminary results were published in "Mesopotamia".

The Italian Archaeological Expedition, directed by Prof. Roberta Ricciardi Venco, University of Turin, has conducted archaeological surveys and excavations at Hatra since 1987. Its attention has been primarily directed to the layout of the city and the chronology of its holy and secular buildings. A large private dwelling and part of one of Hatra's main streets have been studied and stratigraphic soundings have been conducted within its main central Sanctuary. An outline of the origin and the development of Hatra itself and the Sanctuary is now beginning to emerge.

#### 4. PROJECT DESCRIPTION

The goal of the project is to design a tool to handle the vast amount of data produced by excavations at Hatra and research, surveys and studies devoted to the city as a whole.

The main difficulty, in fact, is imposed by this mass of data, coupled with the size of the site. Planning and gathering of the documentary material is naturally the top priority.

This material consists of several types of data in different formats and from various sources. It comes from the Italian

Archaeological Expedition and reports scattered throughout the literature.

A distinction will be drawn between three types of documentation:

- Topographical documentation

A survey of the eastern part of the city carried out by the Italian Archaeological Expedition in 1987-1989 was followed by the elaboration of a 1:500 map showing the location of all the above-ground buildings.

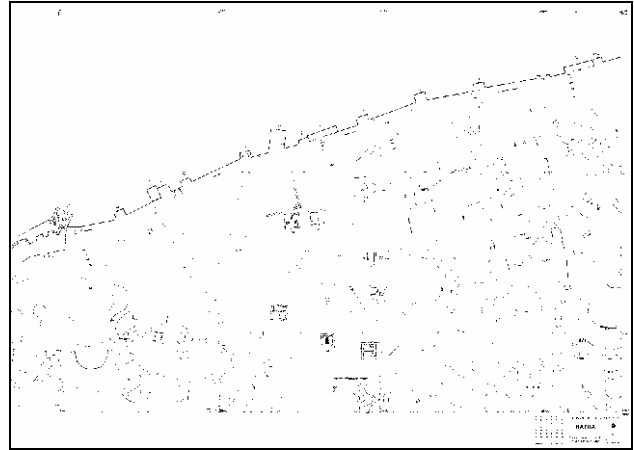


Figure 5. Detail of the Italian survey.

We also plan to use the aerial and satellite images to improve the representation of both the natural features of Hatra and its above-ground buildings.

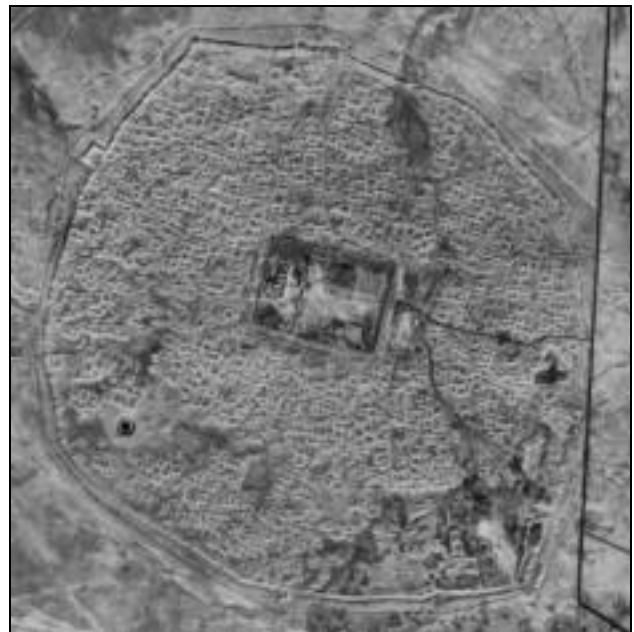


Figure 6. Ikonos satellite image acquired in 2002.

- Architectonic documentation. Excavations. Restorations

These data are drawn from the archives of the expeditions that have worked at Hatra and from the literature. These include graphic documents, photographs and written documents (reports and notes relating to all the excavations and restoration works).

- Finds documentation

Statuary, pottery, small objects, glassware, graffiti, paintings,

inscriptions, coins will be scheduled in dedicated archives. Registers, photos and graphic documents will also be included. Collection of this data will pose certain problems. The documentary material of the Italian Archaeological Expedition is organised, but must be rendered uniform and formalised for entry in the GIS. There are also further data that are not always easy to find. Moreover the results of the archaeological investigations are often published in Arabic only.

The project is now in the process of elaboration. It will separate the spatial information that can be shown on a map from the non-spatial information (described as attributes) which must be arranged and handled on tables in the database. The dataset architecture will be designed to allow both research related to the map and the best possible inter-relation between the attributes files through links between the different levels of information.

The first step in the analysis of the data will be to determine how information from different archives and contexts can be exchanged. The design of the database, in fact, must take the peculiar features of the original archives into account. A metadata structure indicating those who collected the data, how they were analysed and when they were acquired must be created.

The dataset will use ten tables to show the attributes relating to the information derived from archaeological investigations, restoration and observations in the field. These tables will be devoted to: Buildings, Archaeological investigations and research, Rooms, Architectural decoration, Finds, Bibliographical references, Bibliographical sources, Date, Photographs and Drawings.

The Buildings, Rooms, Architectural decoration and Finds tables contain spatial data that can be shown on a map. Each room is part of a structure in the same way as each find is related to a room. The map can thus be used to access all the data and attributes of each structure, of each room in which a structure is divided and hence of all its finds.

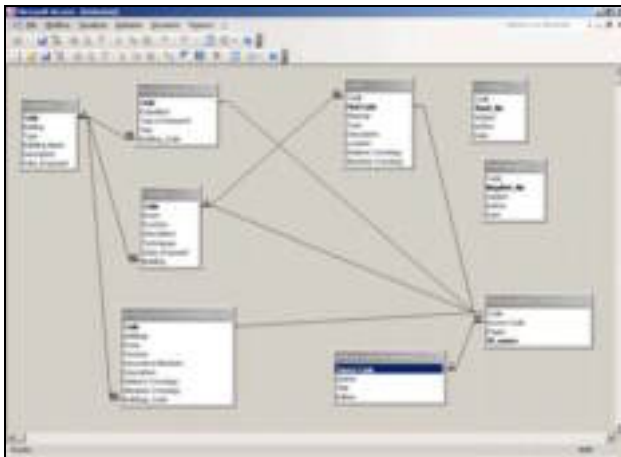


Figure 7. Dataset structure.

A user-friendly approach to the archaeological documentation

will be achieved through the insertion of hyperlinks in these tables. This will allow direct access from the map to the databases, which are both independent and linked to each other. Exploitation of the maximum correlation between the data will illustrate both the context of each item of information and its relationship with the rest.

The other tables contain non spatial information (bibliography, photos, etc.) They are related to the spatial tables by means of IDs.

The dataset is planned to allow future integrations and updating. A set of masks will be designed to allow a correct data input. This means that the data must be entered and stored by the specialists who selected and collected it.

## 5. CONCLUSION

The importance of Hatra has made it necessary to ensure that the data collected during research on the site can be examined both as a whole and in detail.

In addition to filing the data, in fact, the project will ensure that they can be more readily consulted and provide the starting points for future research.

The GIS lends itself to the addition and integration of fresh information derived from Hatra itself (including the details of an ongoing excavation) and its surroundings.

In its present preliminary stage, the project only takes general information into account. It will eventually have an open architecture for the inclusion of details and data subsequently acquired.

The project will also set out to estimate the damage that has occurred on the site and list the present threats, plan future archaeological and conservation measures in a more rational manner in function of the real needs of the site and elaborate plans for its safety and management.

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