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# Data Atlas of Byzantine and Ottoman Material Culture: Archiving Medieval and Post-Medieval Archaeological Fieldwork Data from the Eastern Mediterranean (600–2000 AD), Phase 1

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## Abstract

This *Data Atlas of Byzantine and Ottoman Material Culture* involves the archiving, storing and making accessible of Medieval and Post-Medieval data from several archaeological missions in the eastern Mediterranean (period 600–2000 AD). The data mainly originate from pottery studies carried out during excavations in four major urban centres and during two surface surveys in their respective surroundings. The urban sites are Butrint in southern Albania, Athens in central Greece, Ephesus in western Turkey and Tarsus in eastern Turkey, the material culture of which is studied in relation to archaeological finds from rural settlements and towns in their *hinterlands* (e.g., Aetolia, Boeotia).

## Keywords

eastern Mediterranean – Medieval archaeology – Post-Medieval archaeology – material culture – ceramic studies – Greece – Turkey – Albania – long-term archiving

- Related data set “Data Atlas van Byzantijnse en Osmaanse materiële cultuur” with DOI <http://doi.org/10.17026/dans-zuq-ewst> in repository “DANS”.

## 1. Introduction

Between 2010 and 2015, the multidisciplinary NWO-VIDI research project (276-61-003) *Material Culture, Consumption and Social Change: New Perspectives for Understanding the Eastern Mediterranean during Byzantine and Ottoman Times* was carried out under the direction of J. Vroom (Leiden University). It has resulted in large amounts of data relating to archaeological finds (especially ceramics from Byzantine to Ottoman times), which are stored in various databases. Part of the project was to construct a Data Atlas. The aim of the Data Atlas is to describe, link, archive and ultimately make accessible the extensive datasets (among which databases, photographs, slides, drawings, published results, etc.) from the above mentioned four urban centres and two survey regions in the eastern Mediterranean.

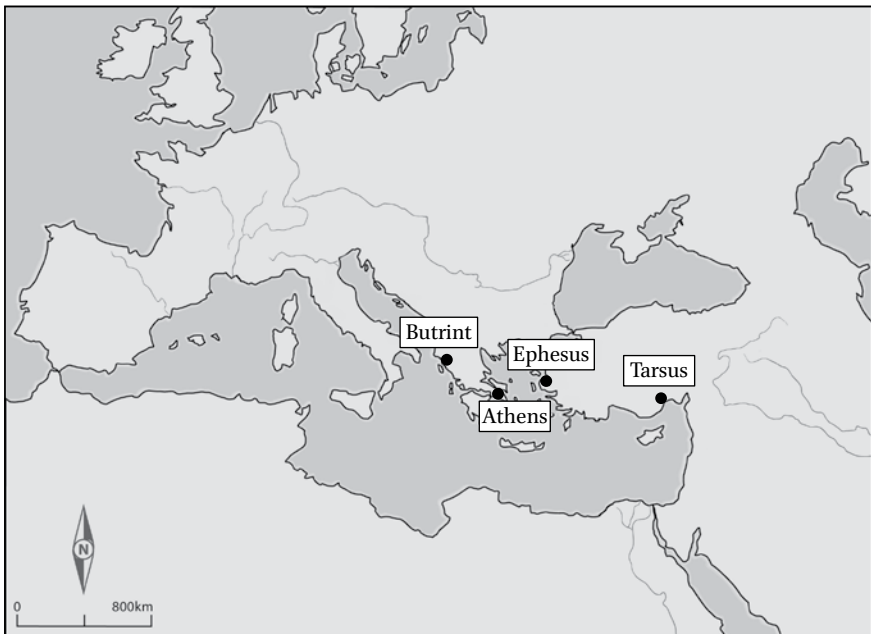


FIGURE 1 *Map with locations of Butrint, Athens, Ephesus and Tarsus in the eastern Mediterranean*

SOURCE: [HTTPS://WWW.UNIVERSITEITLEIDEN.NL/EN/RESEARCH/RESEARCH-PROJECTS/ARCHAEOLOGY/BYZANTINE-AND-OTTOMAN-ARCHAEOLOGY](https://www.universiteitleiden.nl/en/research/research-projects/archaeology/byzantine-and-ottoman-archaeology)

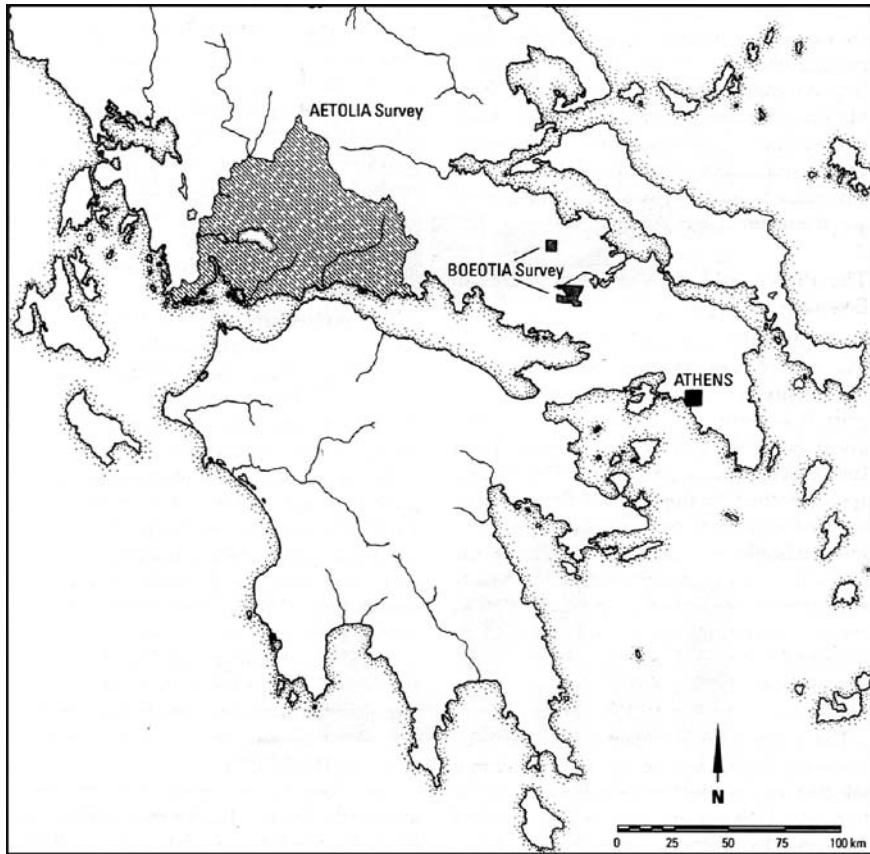


FIGURE 2 Map with locations of the surveys by the Aetolia Project (ASP) and by the Boeotia Project in central Greece

VROOM, 1998, 135, FIG. 1

The VIDi project has succeeded in making substantial progress in determining the (previously unknown or uncertain) typo-chronology of pottery finds from the post-antique period (600–2000) in four urban centres (Butrint, Athens, Ephesus and Tarsus; cf. Figure 1) and their *hinterlands* (e.g., the rural area of Boeotia, with towns such as Thebes, and the remote, but strategic area of Aetolia; cf. Figure 2). In addition, the project succeeded in the gathering of new knowledge about the production, distribution and consumption of ceramics, as well as about the complex relation among these aspects in the region under study.

The four urban centres, which form the focus of the VIDi project, were chosen because of their geographical location, their long history of occupation, the variety of socio-economic and political developments that these settlements experienced, and in general their key role in exchange networks (cf. Figure 1).

Two of these urban centres (Athens and Ephesus) are situated in the core region of the Byzantine and Ottoman Empires, one on the western side and the other on the eastern side of the Aegean. The other two are located in the peripheries of both Empires: Butrint in the Western Balkans is affected by its proximity to Medieval Italy, while it also participated in the economic, political and military networks that interconnected the Western Balkans and connected it to the capital of the empires Constantinople/Istanbul. Tarsus, on the other hand, functioned as a crossroad of Byzantine, Arab and Crusader cultures, and the archaeological finds coming from the excavations here highlight this cross-cultural interaction between the Christian and the Islamic worlds.

The first results in the study of the rich and unique material from the four urban sites have been published in various articles, book chapters and monographs (e.g., Vroom, 2003; 2013b; 2015; Vroom & Fındık, 2015; Bağcı, 2017; Bağcı & Vroom, 2017; Vroom & Tzavella, 2017). These results shed new light on the economic, social and cultural developments at the sites under study during the Medieval and Post-Medieval periods, as well as on aspects of their spatial organization and relation to their *hinterlands* (cf. Vroom, 1987; 2003; 2006; 2014a).

During the years of the VIDI project, the archaeological material from the excavations and surveys in the eastern Mediterranean was diagnosed, dated and documented, which resulted in extensive datasets (mostly of pottery finds), which were stored in various digital databases. Furthermore, the project has collected numerous photographs, slides and field notes from past archaeological surveys in the area under study (Vroom, 1987; 1998; 2003; 2013b; 2014b).

The aim of the Data Atlas was both the archiving and long-term durable storage of this data, as well as creating on-line accessibility to it. The documentation of the deposited data has taken place in collaboration with international partners, including the American School of Classical Studies at Athens (ASCSA), the Österreichisch Archäologisches Institut (ÖAI) in Vienna, the Butrint Foundation in London, the Albanian Archaeological Institute in Tirana, and the Bosphorus / Bozağcı University in Istanbul.

Since the VIDI project was one of the last generation of NWO funded projects in which digital archiving was not yet a compulsory part of the subsidy, external financing by DANS was necessary to make the deposit of the Data Atlas possible.

## 2. Problems and Aims

Although results of the project have been published in various forms, a considerable amount of the data from the excavated and surveyed contexts

underlying these publications remained inaccessible for the outside world, or even still needed to be processed, digitised and stored in digital datasets. It speaks for itself that this digital documentation can play a significant role in presenting archaeological research and sustaining its argumentation.

One of the key concerns within the VIDI project was that a durable documentation of black-and-white and colour photographs, drawings, colour slides and field notes had been neglected in the (pre-digital) past and these needed to be stored in trustworthy digital archives. In fact, the deterioration of colour photographs and colour slides, showing visible changes resulting from colour fading, asked for a quick solution.

Another concern was that the deposition of the data from the four excavations and two surveys is of great significance for the internationally flourishing fields of Byzantine, Islamic, Crusader and Ottoman archaeology in the eastern Mediterranean, which are increasingly regionally faced with progressive destruction of archaeological and historical archives (Vroom, 2013; 2015; Vroom et al., 2017; Bağcı, 2017).

In the perspective of the Data Atlas, we confine ourselves to five key aspects of the VIDI project.

Firstly, we set out to explore a new approach to the material cultures of the Byzantine and Ottoman Empires, which were much more intimately related than previously assumed. These empires succeeded each other, were in complex ways closely interwoven, and throughout the centuries played an important role as the 'East' in relation to Western Europe.

Secondly, we tried to study the material cultures of these two empires in a truly long-term perspective. The aim was to acquire more knowledge on historical developments, on social changes as well as on cultural continuity and discontinuity in the period between the 7th and 20th centuries.

Thirdly, we attempted to get a better understanding of the changing shapes of (mainly ceramic) objects in relation to socio-economic, cultural and historical developments. This meant that the archaeological research was not confined to the diagnosis and dating of pottery only, but also aimed to understand material culture in a broader context, specifically in relation to changing distribution systems, changing cooking and dining manners, and changing social identities.

Fourthly, we set out to realize all this with a multidisciplinary approach, combining archaeological artefacts, written sources and pictorial evidence (including photographs and slides) as sources of information.

Finally, the ultimate aim was to achieve a long-term comparative perspective on the material culture of four important Byzantine and Ottoman urban centres and their *hinterlands* in the wider perspective of the socio-economic, cultural and historical developments in the eastern Mediterranean region (2).



FIGURE 3 *Aerial view of the Omega House in the Athenian Agora, excavated by the American School of Classical Studies at Athens (ASCSA)*

SOURCE: [HTTP://AGORA.ASCSA.NET/ID/AGORA/IMAGE/2000.03.0036?Q=HOUSE&T=&V=LIST&SORT=&S=10](http://AGORA.ASCSA.NET/ID/AGORA/IMAGE/2000.03.0036?Q=HOUSE&T=&V=LIST&SORT=&S=10)

### 3. Methods

The purpose of the present Data Atlas, which was developed between February and November 2017, was to describe, link and archive the large digital databases of the VIDJ project, and to supplement them with digitalized visual (photographs, slides, drawings, graphs, tables, maps, posters) and written records (site documentation, field notes, published results). Thus, a large and integrated digital collection of research data would be created, which eventually will become accessible for study in the future.

One of the challenges to be tackled with the help of the DANS grant was the incompatibility of the various existing databases (which were originally made in Excel, Access and DataPerfect). In addition, new digital datasets of visual data material (such as archaeological drawings and photographs; see Figure 3 for Athens) had to be made, so that they could be linked to the existing databases.

A student assistant (M. Arntz) of the Faculty of Archaeology of Leiden University was employed for the documentation and conversion of the various databases. After an initial inventory and a project description, she undertook a program of scanning non-digital data (drawings, written site forms, analogue photos) and cleaning up the existing databases of archaeological sites, exporting them to Excel, and integrating the resulting digital datasets.

An external designer (S. van der Vlugt) of Sjo3rd Graphic Design was commissioned to digitize the archaeological drawings and to make them ready for publication (using Adobe Illustrator). This mainly concerned the pottery drawings of the Aetolian Studies Project (ASP) and of the Athens excavations. Finally, another external expert (L.S. Bommeljé of ASP) has carried out the integration of the data archives of the ASP. He also assisted J. Vroom with the codebooks for the description of the databases of the sites and of the survey regions.

The archiving of the data of the Aetolian Studies Project (ASP) took place as part of the 'Ariadne Project' (which is a research infrastructure for digital archaeology in Europe; [www.ariadne-infrastructure.eu](http://www.ariadne-infrastructure.eu)), and thus was built on a collection of Mediterranean data from Dutch projects (cf. also at DANS, The Aetolian Studies Project ([www.doi.org/10.17026/dans-xxu-6utq](http://www.doi.org/10.17026/dans-xxu-6utq))).

As one of the principle aims of the VIDI research project was to preserve archaeological big data for the future and to make them accessible to scholars and the wider public, two online exhibitions were created besides the dataset in the DANS repository (*The Archaeology of a Byzantine City, Life among Ruins*).

However, the Data Atlas is a digital project in progress. As we are still in the process of studying the finds, the dataset is for now only partially accessible in the online archiving system of DANS as Phase 1. In the near future additional datasets will be archived as Phase 2.

#### 4. Data

- **Data Atlas of Byzantine and Ottoman Material Culture deposited at DANS**
- **DOI:** <http://doi.org/10.17026/dans-zuq-ewst>
- **Temporal coverage:** 600–2000 AD

The present Data Atlas contains the digital data which resulted from the documentation, diagnosing and dating of large amounts of archaeological material, based on the typo-chronology published in *Byzantine to Modern Pottery in the Aegean: An Introduction and Field Guide* (Vroom, 2014b). Depending on the history of research at the four sites or in the two survey regions, this involved





FIGURE 4 *Ceramic finds from the Türbe excavations in ancient Ephesus / modern Selçuk, Turkey*

ÖAI, PHOTO: N. GAIL. SOURCE: [HTTPS://WWW.OEAW.AC.AT/OEAI/FORSCHUNG/BAUFORSCHUNG/EPHESOS-AYASOLUK-FORSCHUNGEN/](https://www.oew.ac.at/oelai/forschung/bauforschung/ephesos-ayasoluk-forschungen/)

old and recent finds, varying in size between 1,300 and 13,000 fragments per database (see Figure 4). In the case of Butrint, Athens and Ephesus and Tarsus, graphs, tables and maps were also made in addition to these large databases on pottery finds (cf. Figure 5).

The conversion of out-dated files in Access or DataPerfect formats to a standard Excel format had to be taken care of. In addition, a number of datasets had still to be completed in order to obtain a complete digital archive of all fieldwork data. This involved the digital editing in Illustrator of PDF scans of pottery drawings, as well as the digitization of various analogue datasets (including pottery forms, site forms, and daily report forms), as well as the digitization of graphs, tables, maps and relevant (local) publications on paper.

The present data set (Data Atlas Phase 1) is divided into six main folders, one for each of the four urban centres and the two survey regions in the study area (with the file names Aetolia\_ceramics; Athens\_ceramics; Boeotia\_ceramics; Butrint\_ceramics; Ephesus\_ceramics; Tarsus\_ceramics). These six main folders contain 26 folders and 50 subfolders with a total of 859 files (see Figure 6). The arrangement of these folders reflects the structure of the ceramic research by the VIDI project leader J. Vroom. The 50 subfolders include i.a. eight databases,

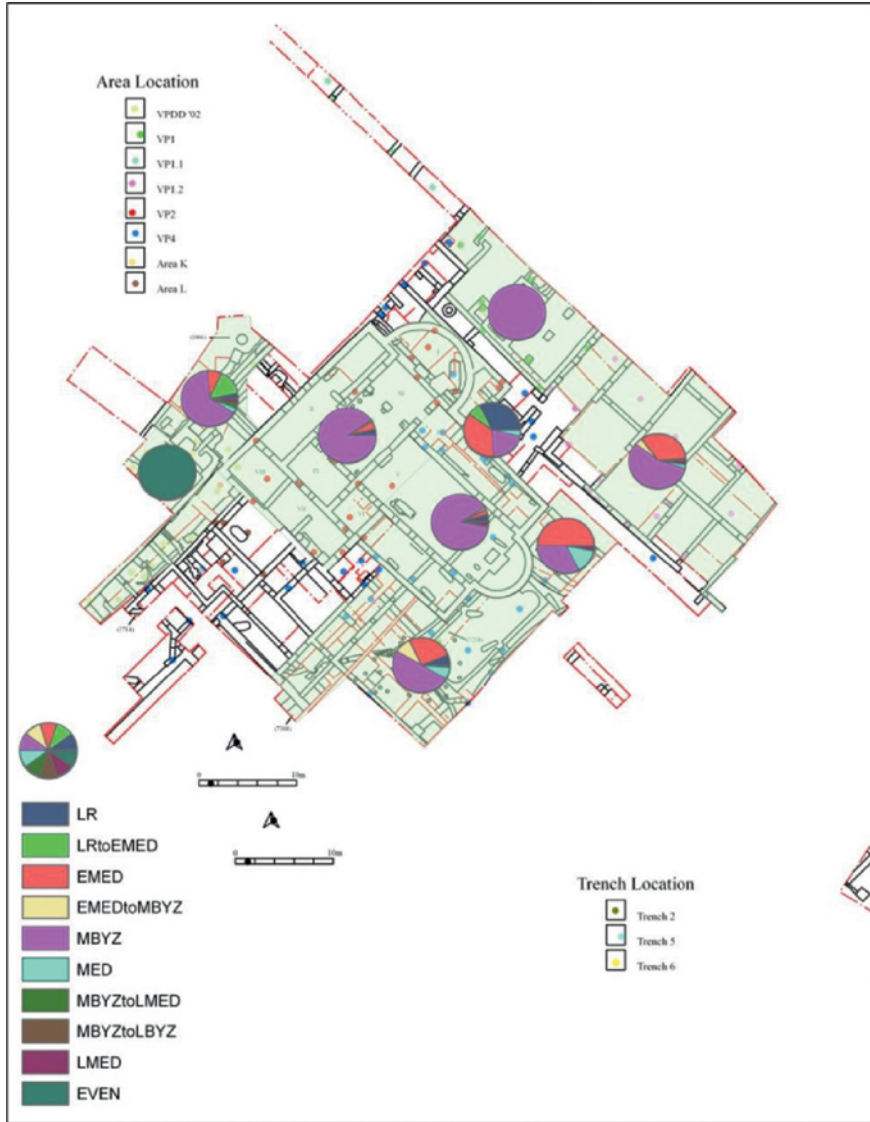


FIGURE 5 Pottery chronology chart of the Vrina Plain finds at Butrint, Albania  
 VROOM, 2013B, FIG. 8

five codebooks, five folders with black-and-white and colour photographs, two folders with scanned pencil drawings, six folders with digitized drawings, six folders with graphs, six folders with articles and even two monographs (Vroom, 2003; Bađci, 2017).

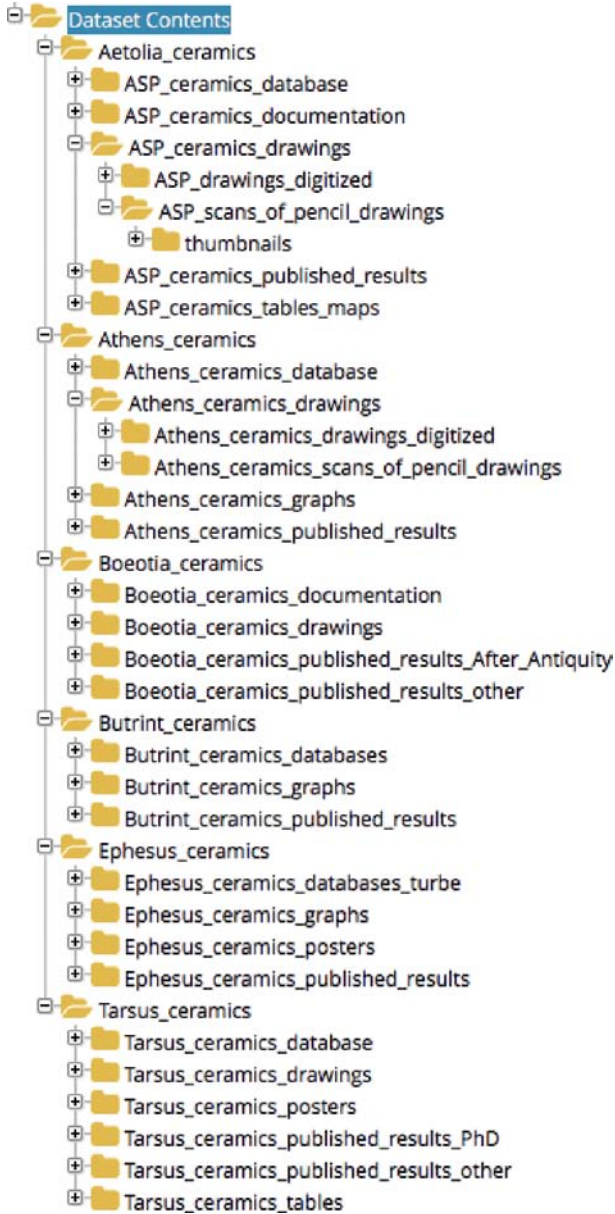


FIGURE 6 *Data Atlas Phase 1: a screen shot of the 'tree' of the files structure*

## 5. Concluding Remarks

At the moment of this article's submission, parts of the primary dataset (Phase 1) are still under study, the results of which will be published in the near future. Nevertheless, the Data Atlas has already proved its practical value. Due to the

clear division in folders and subfolders with databases, photos, scanned and digitized drawings, graphs, maps, tables and articles, it is now possible to obtain much easier a complete picture of the information on the material culture in the four urban centres (Athens, Butrint, Ephesus, Tarsus) and their *hinterlands*.

The first goals of the *Data Atlas of Byzantine and Ottoman Material Culture: Archiving Medieval and Post-Medieval Archaeological Fieldwork Data from the Eastern Mediterranean (600–2000), Phase 1* have been achieved. The data deposit resulted in substantial steps in the archiving, linking, and sustainable storing of extensive digital datasets, including several databases with unique pottery finds from four major excavations and two important regional surveys in the eastern Mediterranean. Besides existing digital datasets, which were specially prepared for archiving, several analogue datasets were digitalized and supplemented to the Data Atlas in order to create a complete digital archive of all the fieldwork data involved.

Phase 1 of the Data Atlas will be followed in the future by a second stage of deposition of data from projects related to the NWO-VIDI research project in the DANS repository. This Phase 2 will concern, i.a., a comprehensive dataset of digitized maps, plans and slides from the Aetolian Studies Project (ASP). Also, the hope is to deposit in Phase 2 a series of digitized historical (stereoscopic) aerial photographs (1944) as well as digitized historical cartographic material (1812; 1853) in possession of the ASP, and to add geo-links to these files in order to make locations searchable. However, given the scale of the work involved, the depositing of this material and its linking to the datasets of the Data Atlas may require a Phase 3.

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