

## Aerial Photography and Archival Data: Some Examples of Combined Study in the Suburbium of Aquileia

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**Abstract:** Starting from the rich historical documentation of the National Archaeological Museum of Aquileia, we provide some examples of crosschecking aerial photography and archival data, especially from cartographic archives: in the immediate Northern outskirts of the city we can assume the existence of residential areas - one of which was located right by a production area - while evidence obtained by aerial photography both in the North-Eastern and Western sectors refer respectively to a necropolis on the way to *Emona* and to *via Annia*, according to archival sources.

**Keywords:** Aerial Photography, Archival Data, Aquileia, Suburbium, via Gemina, via Annia, Funerary Areas, Villa, Workshop

### 1 Introduction

Currently, many projects and activities are being carried out regarding either the whole Aquileia area, or single sectors of it, using different methods and levels of investigation. It is convenient to coordinate the research work in order to optimize the resources; in this way, it is also possible to exploit the overlapping of the investigated areas, in order to mutually check the results obtained using different criteria and techniques. Beyond this issue, the research work on the city of Aquileia and its *suburbium* - which has been systematically investigated since the 19<sup>th</sup> century – is a test to verify the effectiveness of the aerial photography - usually predictive - crosschecked with archival data. In the latter case, we have at disposal an enormous amount of documents - maps, photographs, reports - collected since the opening of the National Archaeological Museum in 1882, as a K.K. Archäologisches Staatsmuseum. In order to guarantee the consultation and, at the same time, safeguard the archives from damages - especially to preserve the about two-thousand maps and drawings, a

part of them dating to the 18<sup>th</sup> century AD, and more than two-hundred to the 19<sup>th</sup> century - it was necessary to re-organize and digitize the archives, partially fractioned according to the size of the originals - and filing each drawing. The documents can now be searched into a unique database, and viewed - reproduced, if needed - without accessing the originals.<sup>1</sup> This operation is aimed at preserving the archives, while working with a tight schedule with the currently available instruments. Unfortunately, it wasn't possible to geo-reference the maps. This would have allowed to overlap the aerial photographs with the current maps, checking which of the currently-visible traces refer to those evidenced in the past. Therefore, the classification is helpful, and we adopted the topographic criterion: the Aquileia territory was divided into 31 zones, matching the numbering of the archives' drawers where drawings are physically placed<sup>2</sup>; starting from the archaeological map by Luisa Bertacchi,<sup>3</sup> divided into homogeneous areas, proportionally enlarged or restricted according to the amount of findings discovered therein. Data can be searched by their urban and extra-urban sector, subject, author, date, notes. This resource is essential to compare data, even with the newest techniques of remote sensing, because it allows to check whether the actual traces match the already excavated remains, successively covered again, and it is useful to enter data into a net of documented remains, which is also helpful to their interpretation.<sup>4</sup>

## 2 Case-studies: aerial photographs of the Annia Project

The potential of the historical archives is high. As an example, we mention some sites on the *suburbium*: the area around the town belt was systematically explored during the 90s, using reports, aerial photographs and research on the ground, in addition to

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<sup>1</sup> This task was projected and entirely carried out by the staff of the Museum, technical-scientific assistants Flavio Cossar e Adriana Comar, who also provide reference for personnel and researchers. At the moment, 1823 items have been dealt with and filed to a database to be consulted via Intranet and already intended for web-access. A similar project has been started, regarding manuscripts and excavation reports.

Some sections refer to different topics (drawers from 32 to 43: e.g., documents about the National Archaeological Museum and the Early Christian Museum, cadastral maps, technical maps, IGM, etc.).

<sup>3</sup> Bertacchi 2003, tav. IV.

<sup>4</sup> The above-mentioned archaeological map by L.Bertacchi is a synthesis of all the data currently known; its limitations are the lack of geo-referencing and the simplification of some reliefs, whose original details could have granted a more reliable overlapping. We should also mention the geo-referred map of Aquileia set up in the 90's by G.Meng on behalf of the Superintendency, and further implemented by M.Braini: it includes the new findings, but was not complemented with the historical ones.

the rich cartographic documents mentioned.<sup>5</sup> On this basis we can now read photos of the Aquileia's *suburbium* - taken in the framework of the Annia Project - which were helpful well beyond their original purposes.<sup>6</sup> The first site is located N of the *suburbium*: the area was searched by inspecting photographs in the recent times, having identified a complex, probably a villa with a production plant;<sup>7</sup> this can be referred to site AQ 11 according to the SARA Project (Fig.1a), whereas the oblique photograph (Fig.2) can be located not far from AQ 14 (Fig.1a). In the 80s, after land works, remains of an *opus spicatum* floor came to light along with mosaic tesserae and a fragment of a terracotta column. Even in the 90s, ceramic fragments and bricks emerged over a 20.000m<sup>2</sup> surface. The outcropped materials suggest the presence of housing facilities, visible on the aerial photos; unfortunately, no excavations or sample-trenches - neither recent, nor older - were undertaken on the area.



**Fig. 1a-b** – N *suburbium* of Aquileia, E of the so-called Iulia Augusta (SARA Project, 1994); highlighted sites: AQ 11 (Buora-Roberto, 2008, fig.4); AQ 14 ( fig.2); AQ 21 (fig.3).

- 5 The survey of the suburbium, by P.Maggi e F.Oriolo, was performed within the SARA Project, carried out by the Superintendency, directed by F.Maselli Scotti); it partially recovers the data of the Regional Archaeological Map, drawn at the Dept of Antiquities of the University of Trieste (project manager: Chiara Morselli). Cfr. Maggi, Oriolo 1999.
- 6 Method and results in: Ninfo, Fontana, Mozzi 2011; Aquileia partic. figg. 4, 5, 15, 16.
- 7 Buora, Roberto 2008, pp. 68-70.



**Fig. 2** – N *suburbium* of Aquileia, E of the Iulia Augusta (N at the bottom): the map of a complex and isolated building, probably a villa; on the foreground, aligned semicircular anomalies (Photo Ninfo = Ninfo, Fontana, Mozzi 2011, fig. 15).

E of the mentioned sector, on the place called Borgo San Zili - between the roads to *Emona* and *Tergeste* - new aerial shootings (Fig. 3) show lines by AQ 21 (Fig. 1a-b) of an area where an excavation of part of a necropolis took place, E of the road to *Emona* (marked by S). Data have been collected from the Maionica's Fundkarte; the sketches of the Brusin notebooks, and researches of the 90's, none of which was reported on the Bertacchi's map.<sup>8</sup> Thanks to the repositioning of the elements we can partly discern evidences of the Roman city from later interventions.

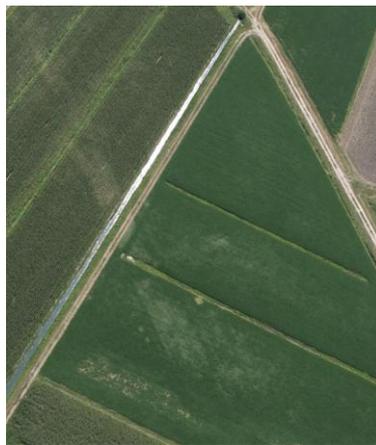
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<sup>8</sup> Maionica 1892; G. Brusin, notebook 8/11/1936\_19/6/1937 (MAN Aquileia); Bertacchi 2003, tav. VII.

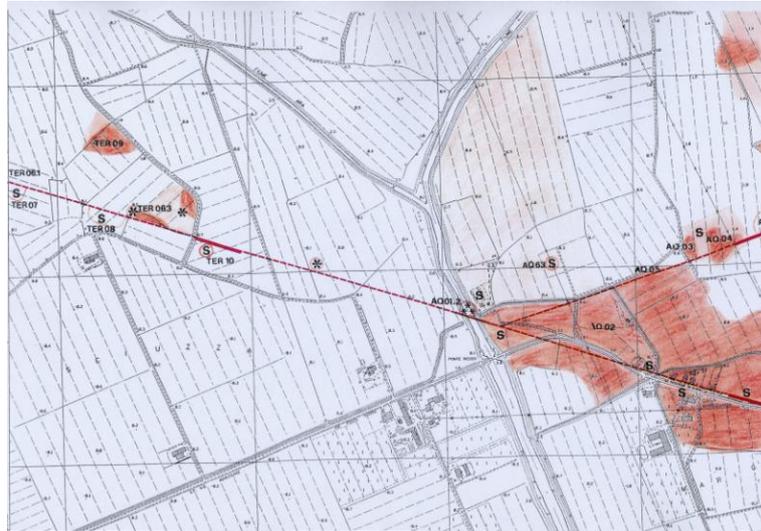


**Fig. 3.** NE *suburbium* of Aquileia (N to the right), Borgo San Zili, between the roads to *Tergeste* and *Emona*. We recognize a stretch of the road to *Emona*, flanked by buildings (funerary precincts). Photo A. Ninfo = Ninfo, Fontana, Mozzi 2011, fig.16.

A remarkable case of recognition of ancient traces by different sources is *Via Annia*: results by aerial photos match with data from historical archives. We give details of the Annia Project about an area located W of Ponte Rosso, municipality of Terzo di Aquileia (Fig.4). The point is located E of the site TER 10, filed during the SARA Project (Fig.5), that matches a stretch of the road excavated in 1885 by C.Gregorutti, located on the old land parcel n. 1073 - now 1075/2 - with its funerary monument.

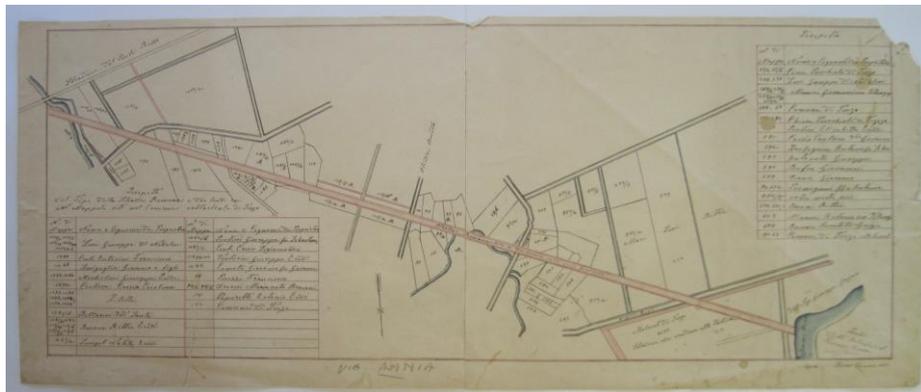


**Fig. 4.** – W *suburbium* of Aquileia, municipality of Terzo (N bottom left), with the Annia road layout (Photo A.Ninfo = Ninfo, Fontana, Mozzi 2011, Fig. 4).



**Fig. 5.** – *W suburbium* of Aquileia, at the boundary between Aquileia and Terzo (SARA project, 1994); highlighted site: TER 10 (immediately W of photo in fig. 4).

The whole strip from river Ausa to river Terzo is depicted on an unpublished map by G.Pozzar, from the early 20<sup>th</sup> c. - now in the archives of the Museum - showing the overlapping of *via Annia* with land parcels (Fig.6).



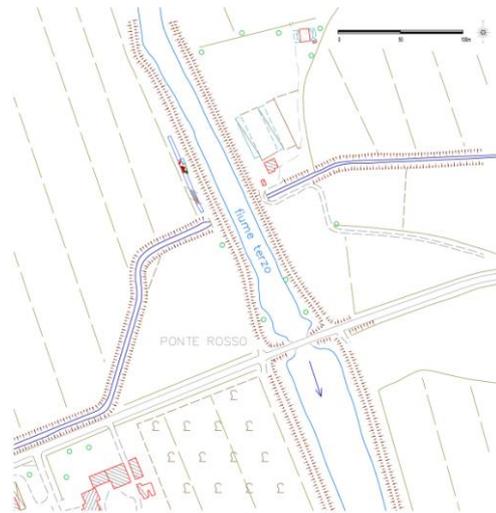
**Fig. 6.** – The *Annia* road layout, between the rivers Ausa and Terzo (N at the bottom), drafted by G. Pozzar (beginning of the 20<sup>th</sup> century, MAN Aquileia).

Also, it is possible to perfectly match another aerial view of the *via Annia*, taken during the *Annia* Project at the boundary of the Aquileia and Terzo municipalities, identified with the river Terzo (Fig.7): in this case, a comparison is given by a

preventive excavation relief, realized in 2010, whose map is enclosed (Fig.8), letting emerge a stretch of the cobblestone road (*glareata*) and foundations of some funerary precincts,<sup>9</sup> as we guess from the aerial photos taken just before the excavations.<sup>10</sup>



**Fig. 7.** – W *suburbium* of Aquileia, at the boundary between Aquileia and Terzo (N at bottom right), with the Annia's layout (Photo A.Fontana, the Annia Project).



**Fig. 8** – General map of the excavations 2010 in Ponte Rosso (municipality of Terzo), on the same parcel of land in Fig.7 (M. Braini, from P.Ventura et al. 2011, figs. 3,4).

<sup>9</sup> Ventura *et alii* 2011, pp. 272-283.

<sup>10</sup> Cfr. Maggi, Oriolo 1999, p. 117, fig. 8; Maggi Oriolo 2004, p. 227.

After considering the preliminary results consequent to the above-listed examples, in the near future we intend to continue the cooperation between the Ministry of Cultural Activities and Heritage (Superintendency of Archaeological Property of the region Friuli Venezia Giulia) and the University of Padua, Department of Geography “G. Morandini”, in order to exploit at best the high potentialities of the Annia Project's oblique photographs, by crosschecking them with archival data of the National Archaeological Museum of Aquileia.

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