

The Archaic Fountain of Agrigento. Results of a New Analysis on the Structures

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ABSTRACT

This paper aims to provide the first results of a new autoptical analysis on the structures of the archaic fountain in Akragas (Agrigento), known as "Santuario rupestre of S. Biagio". The monumental complex, located just outside the city-walls, on the north-eastern slopes of the Rupe Atenea, behind a rock face in which an anthropic cave system has been developed, is made up mainly of two parts: the building of the western basins and, forehead to the east, a fenced yard.

After the first investigations on the fountain directed by Pirro Marconi in 1926, while in 1932 Giuseppe Cultrera unearthed the whole monumental complex. Since the discovery, the monument was subjected to several restoration works, some of which quite invasive. As a first effect, these operations determined not only a difficult reading of the architectural structure in its landscape, but also, and above all, the worsening of the preservation status due to static system alterations. The critical conditions of the monument led to a new safety operation works in 2012, for which the Polytechnic of Bari supervised the methodological process of the disassembly process and de-restoration.

On this occasion a new analysis on the structures has been done, in order to define the architectural configuration during the monument's life phases and to retrace the natural and artificial processes that affected the site since its foundation.

In this paper two issues of the research will be considered, according with proceedings and methods followed during the search:

- The historical and architectural study: new acquisitions (by A. Fino);
- History of monument restorations: causes and implications (by V. Santoro).

KEYWORDS: Agrigento, Akragas, archaeological restoration, de-restoration, fountain, nymphaeum, water archaeology.

1 INTRODUCTION

The monumental structure is located on the eastern side of Agrigento, outside the eastern walls, between them and the basin of Akragas river, today named S. Biagio, in the South-East of Porta I; the monument rises up behind the promontory culminating in the Rupe Atenea, which was recognize as the acropolis of that Greek city, where Polybius (IX, 27, 1-9) identifies a sanctuary dedicated to Athena and Zeus Atabyrios, with clear reference to the foundation of Akragas in sixth century BC by Rhodian and Cretan settlers coming from Gela.

So, the monument in question was realized in this natural landscape, leaning on a rock wall, on which there are three anthropogenic caves. The monumental complex consists in a rectangular building, composed of two tanks, and a trapezoidal square that extends eastward. (Figure 1)

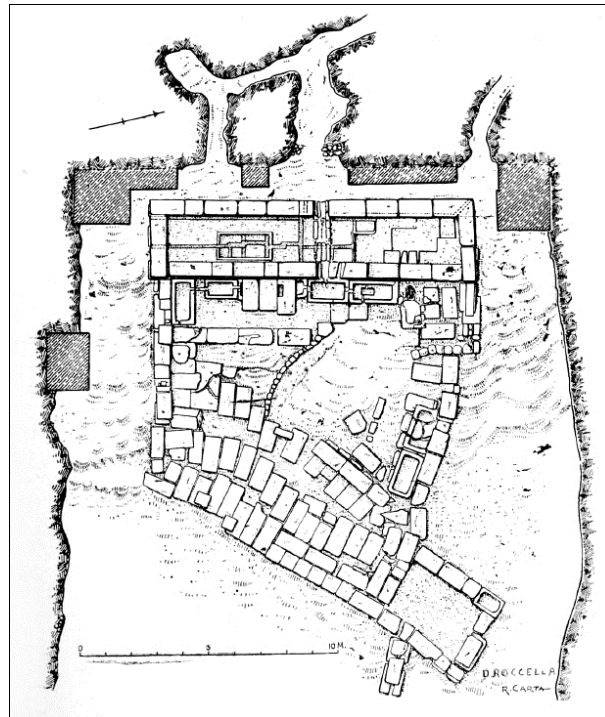


Figure 1: Akragas, St. Biagio's fountain (Plan of the complex (Cultrera 1942, Tav)

In range to the recent restoration that involved the fountain (*v. infra*, V. Santoro), I am able to partially confirm what is already known and pointed out by the researchers who have dealt with the monument until today (Zuntz 1963; de Waele 1980; Siracusano 1983; Hinz 1998; Zoppi 2004; for a summary of the history of the excavations and studies, see Fino, forthcoming), but I could also point out stages and chronology of the monumental complex, with additional insights about its function.

The monument and context restoration, repeatedly carried out, led me to read more carefully Pirro Marconi's writings (Marconi, 1926; Marconi, 1929), who certainly noticed some details at the time of the earliest excavation, details that have been inevitably lost with the passing of time. Marconi made the first excavations of the monument, but his work was limited to the building of the tanks and the caves behind. Leaving aside for a moment the religious aspect (*v. infra*), I would begin with the analysis of the structures related to the water-element. Water supply attested in the northern cave, has been based initially in the central one. It is here, in fact, that the digger finds a branch of the main channel, which is northwestern located. According to this, it can be assumed that, at first, the holding tanks were fed by a

bifurcation of the central pipe, resting on the fifth row of the ashlar masonry; in fact, the seat for a root-canal-treatment north southern oriented is visible on the blocks' top surfaces. (Figure 2)



Figure 2: Akragas, St. Biagio's fountain. Detail of the seat for the water supply system (ph. by A. Fino)

However, the two tanks' intake holes are not visible on the bottom; it is likely that those holes were set where other openings have been realized later, after the completion of the wall. The function of the tanks as reservoirs is showed by the presence of two depressions on the floor for decanting, cleaning and maintenance, according to a well attested use (Tölle-Kastenbein 1993, pp. 24-32). From the tanks that are waterproofed up to the fifth row (Figure 3)



Figure 3: Akragas, St. Biagio's fountain. Detail of the ashler masonry inside the tanks. In blue the water level (ph. and gr. proc. by A. Fino).

The water flowed through the drip nose, through which the tanks below could fill up, or under which we can imagine a block shaped to support the hydria. About the location of the drip nose, it should be noted that the two side openings of the main façade have no threshold, which could have hold the blocks whit the nose whether placed above the water's level. In order to protect the fountain originally there could be a basic wooden porch of which we can see a possible stylobate in the excavation's photos (Figure 4)



Figure 4: Akragas, St. Biagio's fountain. View from the North; the arrow shows the supposed stylobate (ph. Archive BB. CC. AA. Agrigento).

While it's not sure that even in the first period the fountain was preceded by a paved courtyard. Giuseppe Cultrera, which in addition at the bringing to light of the yard, took care of the first reservoir restorations (v. infra, V. Santoro), highlighted some problems about the static of the soil appeared from the earliest stages of monument's life (Cultrera 1942-43, p. 613). In fact what Marconi reported as a system of ducts on the bottom of the tanks is nothing but the effect of the soil instability. However, because of the detachment, the use of tanks became impossible. Restoration attempts are still visible on the main façade, in connection with the openings. As a consequence of the instability, it was necessary to build another water use system, consisting of interconnected small tanks, located in the forecourt, which was present at least from this moment on (Figure 5).



Figure 5: Akragas, St. Biagio's fountain. View from the top of the cliff of the two late tanks (ph. Archive BB. CC. AA. Agrigento).

Starting from the central cave the source of supply went on in the highest row of the dividing wall, up to reach the new containers. As Marconi noted, the top of this partition was put in connection with the central cave by that "rough bridge" which was clearly removed (Marconi 1929, p. 8).

Later, because of a aquifer decrease, it was decided to offset the pressure levels, lowering the amount of channel outlet, from the central cave to the northern tunnel, the latter built on this occasion. The presence of a new paving, made by tiles laid together with hydraulic mortar, on the bottom of the southern tank, no longer visible, suggests that the two tanks were damaged in different ways. At the time, it would be running only the Southern basin, fed from the northern aqueduct by a canalization, which lacked the pottery pipe (Figure 6).



Figure 6: Akragas, St. Biagio's fountain. Inside the northern tanks; detail of the socket of the pottery pipe (ph. by A. Fino).

Therefore, I think the fountain and the little tanks' system would have stopped working because of a final instability of the structure. From that moment on, water fruition continues with two large water storage tanks located in the northeastern part of the square, in direct connection with the northern duct (Figure 7).



Figure 7: Akragas, St. Biagio's fountain. Detail of the corner block of the first row of the southern wall ashlar masonry (ph. by A. Fino).

It's interesting the duplication of the same dual- tanks system, as well as the use of interconnected tanks for settling, useful for local waters depuration.

In the matter of background, I would like to highlight the marked naturalistic component in which we find the monument. It is known that, since ancient time, fountains drawing from natural sources are often placed in suggestive landscapes. Unequivocally this monument belongs to the type of the Krenai (Tölle-Kastenbein 1993, pp. 159-173) in which we find some important comparisons like the Castalia source at Delphi (Glaser 1983, pp. 101, 105) and Clepsydra source on the northern slopes of the Athens' Acropolis (Ibidem, pp. 8-9); Ialysos' fountain in Rhodes (Ibidem, pp. 47-49), dated to the second half of the fourth century, is in a similar relationship with the surrounding rock landscape. The monument could be compared with the artificial landscapes of the late-Classical and the Eastern Hellenistic worlds, well known in Kameiros, in Rhodes itself, in Rodini nymphaeum, in the Apollonion fountain in Cyrene (Stucchi 1970), which is culturally linked to Alexandria. The fountain–nymphaeum, located in the upper terrace of the theater of Syracuse, presents similar characters, also suggested by clay models of the Locri's nymphaeums (Martorano 1992), as a demonstration that the Rhodian-Alexandrian world's taste for the artificially natural landscape appeared early in Sicily and in Magna Graecia, spreading throughout the Hellenistic-Roman world. Some examples: the false rock nymphaeum in the lower sanctuary of Praeneste and the imagines of fountains in Pompeii and Herculaneum frescoes.

There is an important detail present in the square near the south-eastern wall. The corner block of the first row of the southern wall ashlar masonry (Fig. 7) has a protruding rock shaped portion. This naturalistic component, often in connection with the "rock" landscape, would lead up to be more precise in dating the monument later than fourth century. I might add, in support of this statement, that the blocks used in the construction had nearly the same modulus of the nearby walls, destroyed by Carthaginians in 406 BC. It was at that time that the walls were robbed in order to realize buildings such as the St. Biagio's complex.

There is no doubt that forms of worship have always been practiced in this area, but, as already suggested (Portale 2012), it could be a nymphs' cult linked to water, often observed where there are similar architectures. Then, I would tend to free the monument from the neighboring sanctuaries to put it in a more functional topographic context. The misalignment between the fountain and the exterior front of the square should be connected with a extramural route that, crossing the fountain, lead to Porta I. Late traces of this route were found northernmost along the rocky ridge. In a study about the water supply network in some Greek towns, Dora Crouch uses by way of example the city plan of Akragas (Crouch 1991). The researcher, referring to a geological survey of the city, was able to identify the many water supply points, putting them in connection with the urban road network, which seems to have been planned in respect of the natural available water resources. Also the Akragas fountain of St. Biagio fits into this framework. (Antonello Fino)

2 HISTORY OF MONUMENT RESTORATIONS: CAUSES AND IMPLICATIONS

In comparison with the first explorations in 1926-1927 (Marconi, 1926; Marconi, 1929), Giuseppe Cultrera noted a static alteration caused, according to him, by the load of the calcarenitic cliff on the above Rupe Atenea, where the monument leans against. However, although aware of this disruption, he did nothing to change the finding state. In 1932, while the archaeological studies were going on, managed by Cultrera, the architecture of the fountain came to light: it was composed by a forecourt, laterally closed and with a frontal porch (Figure 8).



Figure 8: Agrigento, S. Biagio, 1932. The entire monumental complex (Ph. Archive BB.CC.AA Agrigento)

As usual in those years, during the searches, small interventions of consolidation and anastilosis were carried out, in order not to lose the blocks found collapsed (Giovannoni, 1932; Icomos 2004; Livadiotti, forthcoming). Moreover, he saw that the walls were uneven in several points, due to the presence of water on the bottom (Cultrera, 1942) and tried uselessly to reclaim the area pumping out the water. While restoring foundation, the archaeologist removed some 'broken small blocks' because, according to him, they were corroded by water; it needs to observe that those blocks may not have been eroded or crumbled by water, but they could be the result of a likely previous restoration for consolidation.

In the same context, Cultrera noticed that, in the West, where the fountain leans against the cliff, calcarenites appeared compact inside and crumbled outside, composed of terrain and mixed size stones. This material, already known by Marconi, seems not to be random arranged, but organized in overlapping blocks, a technique similar to the dry construction's one (Figure 9).



Figure 9: Agrigento, S.Biagio. The connexion between Rupe Atenea and archaic fountain (Marconi 1929, p. 2).

In this case too, it may be a matter of bedrock consolidation, similar to the technique examined previously and used for the foundation. The works went on until 1932, when the entire monumental complex became visible and was strengthened by Cultrera with masonry, composed of ashlar and bricks,

still recognizable (trapezoidal retaining wall, pillars for the cliff and supports inside the building) in order to make safe the site and the monument (Figure 10) (Cultrera 1942, pp.615-618).



Figure 10: The archaic fountain, after the G. Cultrera Restorations (1932) (in Ph. Archive BB.CC.AA Agrigento).

Still other interventions were carried out until 1941, supported by Cultrera, also thanks to Jole Bovio Marconi (Figures 11, 12).



Figures 11, 12: The archaic fountain, 1932-1941. Small interventions of consolidation and *anastylosis* (Ph. Archive BB.CC.AA Agrigento).

Thirty years later, from 1975 to 1981, new events affect the monumental structure; in this period there are not any important restorations, except for the reopening of the window near the southern cave, in the likely attempt to make stable the structure by lightening the loads.

The landslides and collapses, already highlighted by Cultrera, are still present (Figures 13, 14);



Figures 13, 14: The archaic fountain, 1975-1981. (Ph. Archive BB.CC.AA Agrigento).

In particular, we highlight the widening of the joints, the collapse of two of the five pillars replaced in 1940 and the overturn of the north-eastern corner, so that, with the intervention of 1981, there is the installation of steel bars in order to better bind the whole structure. Since 1995, other interventions attempted to solve fountain instability. In this period, resin was used in the stabilization of walls, even if it has now been banned by the scientific community, because of the damages provoked on ancient material, especially on local stone (Bouras, 1994; Zambas, 1994; Karanassos, 2007); the retaining walls introduced by Cultrera have been consolidated using the same material, repositioning the same stones already collapsed. Finally, the beds surfaces have been waterproofed with protective layer made by puteolan mortar, removed during this de-restoration.

Because of the strong link between architecture and background, the natural dynamics of the site interact on the architectural complex since its inception, insomuch that they affect the several functional changes during the use and they determine, since its discovery, a worsening in the structures preservation. In fact, since 1931, frequent restorations affect the monument and the site, and some of them in the second half of last century were quite invasive. In the Eighties, for instance, a fastening system, which used iron bars and epoxy resin, was inserted in the masonry for static consolidation of the load-bearing system.



Figure 15: The archaic fountain, 2012. De-restoration the north-eastern corner (Ph. by V. Santoro).

In the monument lifetime, different stages concerning water distribution and storage systems seem to prefer the southwestern portion at the expense of the northern one, a hypothesis proven by the presence on the walls of frequent functional changes (v. supra, A. Fino).

These changes seem to be linked not only to the changed reasons of supply, but also to a supposed change in the levels of the aquifer, as well as to the consequences that the same phenomenon must have had on the structure in ancient times, consequences that now show their effects.

to all this we have to add the succession of significant landslides of the calcarenitic soil, where the ancient Akragas rests, affected by erosion and dissolution, accentuated by the presence of a network of tectonic splits, which gradually tend to widen as a result of the meteoric water infiltration (Cotecchia et al. 1996). In 2012 I had the opportunity to participate to the restoration yard of the fountain which has been a good way to collect new data on the monument useful also for the knowledge on ancient monument degradation in Sicily. On behalf of the Polytechnic University of Bari, my colleague A. Fino and I

cooperated with the company to the works of de-restoration and dismantling of some rows of ashlar masonry pertaining to the upper part of the northern tank of the fountain, already in danger of collapse.

At the beginning of 2012, in fact a critical condition in the vicinity of the northern tanks threatened the stability of the monument and the usability of the site, so that it was necessary an imminent intervention. In particular, the north-eastern corner appeared disconnected and about to collapse.

The original static system showed significant structural tampering, accentuated by the detrital clay-soil and exacerbated, in recent times, by the presence of a large number of metal pivoting. The totally unsuitable system used to shoring up the façade threatened further the structural balance so that, apart from hiding the façade, it was worsening the monument condition because of the excessive weight resting on the structure (Figures 16, 17).

During the last de-restoration in 2012, the disassembly operations focused on 65 blocks belonging to the northern tank. At the end of the works, we can affirm that the totally lost material amounts to about 5%, the partially damaged material to 50%, the fully recovered material amounts to 45%, that is over half of the ancient material has been lost or damaged. The achieved results certainly depend on the nature and the state of the material preservation, on the techniques used in de-restoration and on the works control in course of action, in a logic of government decisions in itinere and specific skills. (Valentina Santoro)



Figures 16, 17: Agrigento. The archaic fountain before and after de-restoration, 2012 (Ph. by V. Santoro).

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