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RE-USE OF NURAGIC SACRED WELLS (*POZZI SACRI*) IN PUNIC SARDINIA

ABSTRACT: The aim of the paper is to discuss the phenomenon of the re-use of Nuragic sacred wells (*pozzi sacri*) during the Punic period (c. 500–238 BC) in Sardinia. Although the Nuragic settlement system and power structures ceased to exist by the Late Iron Age, the sanctuaries – built primarily in the Final Bronze Age (c. 1200/1150–900 BC) and the Early Iron Age (c. 900–750 BC) – were still used for ritual purposes, as demonstrated by finds from the sacred wells of Orri (Arboorea), San Salvatore (Gonnosno) and Cuccuru Is Arrius (Cabras). This phenomenon is analyzed in the context of cultural changes which took place in Sardinia during the period of Carthaginian domination, such as the emergence of hybridized culture with indigenous and Punic elements.

KEYWORDS: Nuragic, Punic, Sardinia, sacred wells, ritual

The sacred wells (*pozzi sacri*) are among the most characteristic architectural monuments of Nuragic Sardinia – structures such as *pozzo sacro* Santa Cristina (Paulilatino) and *pozzo sacro* Santa Vittoria (Serri) are among the best preserved and most widely recognized archaeological monuments of the island. While the Nuragic culture, known mostly of the nuraghi (conical-shaped stone towers) fully emerged in Sardinia during the Middle Bronze Age (c. 1800–1300 BC) and developed during the Recent Bronze Age (1300–1200/1150 BC), the sacred wells were built and used primarily in the Final Bronze Age (c. 1200/1150–900 BC) and the Early Iron Age (c. 900–750 BC). The sacred wells often constituted

parts of larger sanctuaries which emerged in Sardinia during the aforementioned periods. Even though the Nuragic culture declined by the Late Iron Age (c. 750–500 BC) and the Nuragic social and power structure no longer existed during the Carthaginian conquest of Sardinia which occurred in the late 6th century BC, many *pozzi sacri* remained in use well into the Punic and Roman period. The Carthaginian rule over Sardinia gave rise to new Sardo-Punic elites and a hybridized culture with both foreign and indigenous elements, setting a new context in which the sacred wells were utilized.

In this paper, the phenomenon of the re-use of *pozzi sacri* during the Punic period in Sardinia (c. 500–238 BC) will be examined. Available data from excavations and surveys will be discussed in order to draw conclusions regarding the characteristics of the use of Nuragic ritual monuments in the Punic period and its relation to the cultural changes under the Carthaginian rule, with particular reference to elements of water cult in Punic Sardinia and the phenomenon of hybridized culture with both indigenous and foreign influences.

NURAGIC SACRED WELLS: THE BACKGROUND

Currently, some 40 Nuragic sacred wells (also called well-temples) are known in Sardinia, their distribution covering almost all regions of the island¹ – some of the most comprehensive studies and gazetteers documenting the corpus of *pozzi sacri* were compiled by M. Webster² and M. Rassu.³ The main architectural features of Nuragic sacred wells are underground chambers with tholos domes, staircases leading to them, and ground-level vestibules of various plans (Fig. 2–3), often with stone benches by their inner wall-faces (in some cases the vestibule is absent, as in *pozzo sacro* Tattinu in Nuxis⁴). Some of the sacred wells were built with the use of ashlar (isodomic) masonry consisting of well-worked stone blocks – examples being the sacred wells of Santa Cristina

¹ Lilliu 1999: 162.

² M. Webster 2014: 51–97.

³ Rassu 2016: 135–180.

⁴ Rassu 2016: 152.

(Paulilatino) and Predio Canopoli (Perfugas).⁵ It is possible that at least some of the sacred wells included a tower-like structure rising directly over the underground tholos chamber, making the monument more visible in the landscape – this is indicated by several architectural elements found at the sacred well of Santa Vittoria (Serri).⁶ In some cases, the area around the well is enclosed by a temenos – a stone wall. Some of the sacred wells constitute parts of larger Nuragic complexes including settlements with huts, which suggests that communal gatherings were conducted in the sanctuaries.⁷ *Pozzi sacri* are architecturally distinct from Nuragic springs (*fonti nuragiche*), which typically include a ground-level chamber of smaller dimensions – some of the examples are the springs of Su Lumarzu (Bonorva)⁸ and Su Notante (Irgoli).⁹ At least some of the Nuragic springs were used for ritual purposes, as demonstrated by votive deposits from the spring of Su Tempiesu (Orune) which included weapons, adornments and figurines.¹⁰ Noteably, some of the ritual structures associated with water cult were constructed within earlier nuraghi – a well-studied example is Nuraghe Nurdole (Orani).¹¹ The sacred wells should not be confused with wells used for domestic purposes, likely without a ritual aspect – an example is a Nuragic well located beneath the church of Santa Maria Maddalena (Guamaggiore), infill of which produced Recent Bronze Age material.¹²

⁵ Moravetti 1992: 19; Lilliu 1999: 168.

⁶ Contu 1999: 134.

⁷ Depalmas 2009a: 148.

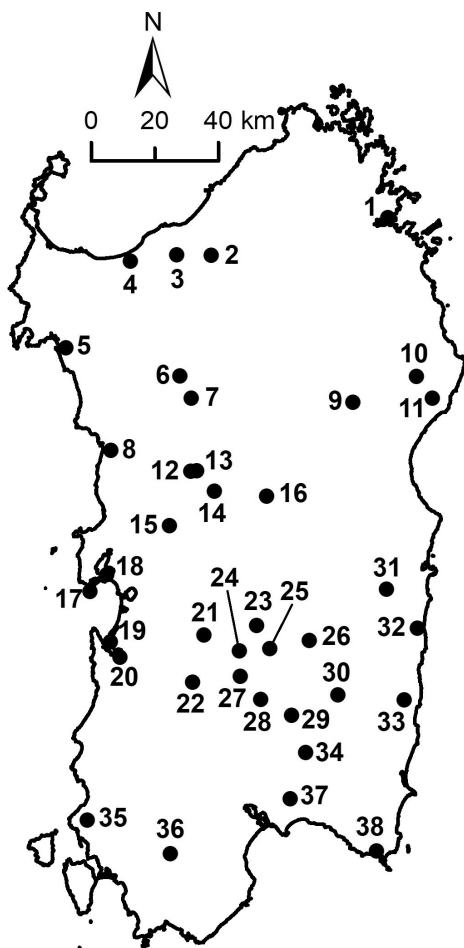
⁸ Caprara 1986: 62–66.

⁹ Massetti 1997a: 194.

¹⁰ G. Webster 2015: 190–191.

¹¹ Campus 2012: 229.

¹² Canino 2008: 395.

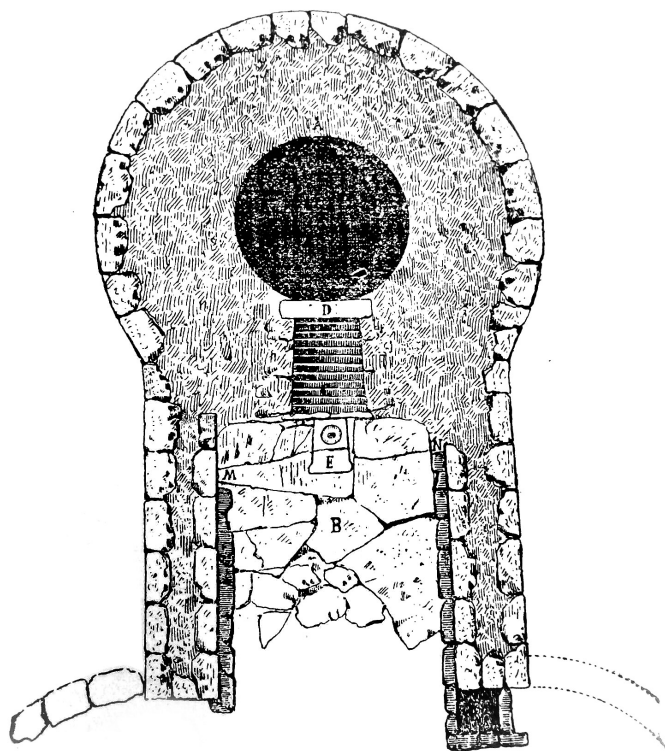


1. Map of the sites mentioned in the text (key to the map, see p. 117)

The chronology of sacred wells is relatively well-established, although it suffers from general problems of the Nuragic chronological framework, many models of which exist, resulting in overall lack of clarity.¹³ Most of the sacred wells were built in the Final Bronze Age and the Early Iron Age, although some pottery finds indicate that the earliest structures of this type could have been built already in the Recent

¹³ M. Webster 2014: 12.

Bronze Age.¹⁴ A further chronological division has been suggested on the basis of architectural typology, dating sacred wells with non-ashlar masonry to the Final Bronze Age and those with ashlar masonry to the Early Iron Age,¹⁵ although that model can no longer be considered accurate, since it has been demonstrated that ashlar masonry was used in Nuragic Sardinia already in the Middle and Recent Bronze Age, being present in nuraghi (Alvu – Nulvi, Su Nuraxi – Barumini) and *tombe di giganti* (Iloi 2 – Sedilo).¹⁶



2. Plan of *pozzo sacro* Santa Vittoria (Serri),
after R. Pettazzoni (1912)

¹⁴ Depalmas 2009b: 131.

¹⁵ G. Webster 1996: 148.

¹⁶ Paglietti 2015: 286; Tanda et al. 2003: 100.



3. *Pozzo sacro* Bau Crabas I (San Basilio) –
staircase and entrance to the chamber

The functions and social significance of sanctuaries with sacred wells received significant attention from archaeologists studying Nuragic Sardinia. The ritual function of these structures is clear, as demonstrated by deposits of votive figurines (*bronchetti*) known from the sanctuaries

of Abini (Teti) and Santa Vittoria (Serri), as well as the presence of basins (*bacili*) and pottery forms such as carinated bowls (*ciotole carenate*) and amphoras in the sanctuaries and associated settlements, interpreted as evidence for ritual libations.¹⁷ At least one case of ritual offerings of animals was recorded – it comes from the sacred well of Serra Niedda (Sorso), where remains of goats and sheep were discovered in a context indicating their ritual deposition.¹⁸ The deposits which are interpreted as votive have been recorded in 33 *pozzi sacri* and *fonti nuragiche*.¹⁹ Interestingly, water flowing in the sacred wells came from a variety of sources: fonts, deep aquifers and rivers, which could indicate that the ritual aspect of the structures was more important than a particularity of a specific water source.²⁰

The period from the Recent Bronze Age to the Early Iron Age in Sardinia was marked by an increasing degree of social stratification, although the exact nature of this phenomenon remains a matter of debate.²¹ The sanctuaries with sacred wells reflect these changes in Nuragic societies – a notable aspect is metalwork deposition, which in the Bronze Age occurs primarily in the nuraghi and settlements, while in the Early Iron Age it shifts almost entirely to sanctuaries, which became spaces of wealth collection and means of legitimizing power of the elites through ritual means.²² It is also interesting to note that the sanctuaries with sacred wells are often located away from the major complex nuraghi, suggesting that new elites, independent from the centers of power in the nuraghi might have emerged in the Final Bronze Age. On the other hand, some of the sacred wells are located in buffer zones between apparent Nuragic territorial units, suggesting that they might have constituted meeting places where communities from different sub-regional polities gathered.²³

¹⁷ Depalmas 2009a: 148.

¹⁸ Wilkens 2000: 263; Perra 2018: 69.

¹⁹ Rassu 2016: 23–24.

²⁰ M. Webster 2014: 23.

²¹ For discussion of the Final Bronze Age and the Early Iron Age Nuragic societies see Perra 2009: 355–368.

²² Ialongo 2013: 201–203.

²³ G. Webster 1996: 147.

The state of research on Nuragic sacred wells varies in different parts of the island. Some of the sites in central regions of the island have been excavated in the first half of the 20th century by A. Taramelli, including the wells and sanctuaries of Santa Vittoria (1909–1929), Coni (1914), Predio Canopoli (1924) and Abini (1929–1931). The ritual function of these sites became clear very early and has been identified by Raffaele Pettazzoni, who considered the sacred well of Santa Vittoria to be “purely and exclusively cult structure”.²⁴ A number of sanctuaries have been subject to extensive excavations, such as the complex of Fun-tana Coberta (Ballao) discovered in 1918 by Taramelli and excavated between 1994 and 2016 by M.R. Manunza.²⁵ V. Santoni excavated the sacred well of Cuccuru Is Arrius in 1978–1980,²⁶ while in 2001–2002 and 2007 E. Usai and M.C. Ciccone excavated the sacred well of San Salvatore (Gonnosno), where the chronology of the site’s use was established.²⁷ Other excavated *pozzi sacri* are Cuccuru Nuraxi (Settimo San Pietro),²⁸ Sant’Anastasia (Sardara), Is Pirois (Villaputzu), and La Purissima (Alghero), the latter with architectural additions from the Roman period.²⁹ Some monuments were never excavated and remain recorded only through surveys – among the examples are *pozzi sacri* Bau Crabas I and II (San Basilio), Su Presoni (Cardedu) and Is Arenas (Gonnesa).³⁰ The potential for discovering new sites is demonstrated by relatively late discoveries of *pozzo sacro* La Purissima (Alghero, unearthed in the 1990s during the construction of water channels³¹) and *fonte nuragica* Miscimili (Nurri) discovered a few years ago during the archaeological survey of the Nurri commune.³²

²⁴ Pettazzoni 1912: 19.

²⁵ Manunza, Orgiana 2020: 298.

²⁶ Santoni 1982: 103–127.

²⁷ Ciccone, Usai 2011: 437–438.

²⁸ Atzeni 1987: 279–297.

²⁹ Alfonso, La Fragola 2014: 231–234.

³⁰ M. Webster 2014: 84, 93, 97.

³¹ Alfonso, La Fragola 2014: 223.

³² Orgiana, Marcialis 2020: 311.

HYBRID CULTURE OF PUNIC SARDINIA

Sardinia was conquered by Carthage at the end of the 6th century BC, although the exact chronology of the campaigns is uncertain. Our main source about the Punic invasions of Sardinia is the Roman historian Justin, who wrote a summary of *Historiae Philippicae et Totius Mundi Origines et Terrae Situs*, a 1st-century BC work by a Gallo-Roman historian Gnaeus Pompeius Trogus. According to Justin's work, the first Punic invasion under the Carthaginian commander Malchus ended in a defeat, but a renewed attempt under Hamilcar and Hasdrubal was successful.³³ The Carthaginian conquest of Sardinia must have been finished by 509, when the first treaty between Carthage and Rome was signed, placing Sardinia within the Carthaginian zone of influence.³⁴ The conquest resulted in the Punic control over the already existing cities founded by Phoenicians at the western and southern coast of Sardinia, as well as the emergence of Punic rural settlements. The latter were documented in the Riu Mannu valley, where large amounts of typically Punic pottery, albeit of local production, were found.³⁵ The Carthaginian campaigns resulted in destruction of some Phoenician centers, such as Cuccureddus (Villasimius), and an economic crisis in others, as their trade connections with Etruria were severed. However, in the 4th century BC, the coastal cities experienced a new period of development, manifested in the construction of large public buildings and new fortifications.³⁶

Although the Nuragic social and settlement systems no longer existed by the time of Punic invasions, many elements of the Nuragic material culture survived well into the Punic period, resulting in the emergence of a hybrid culture with both Punic and indigenous elements which influenced each other. An example is that of ritual figurines from the Punic sanctuary of Neapolis – as observed by P. van Dommelen, their overall typology is evidently Punic, but several characteristics of shape and execution are heavily influenced by indigenous traditions.³⁷ The persistence of the Nuragic forms of material culture is visible also

³³ Just. XVIII 7, 1–2; XIX 1, 1–7.

³⁴ Pais 1999: 68.

³⁵ van Dommelen 1997: 313.

³⁶ Bartoloni 2009: 103–104.

³⁷ van Dommelen 1997: 319.

in pottery. In the Punico-Roman strata from Nuraghe Toscono (Borore), the wares with Nuragic characteristics constitute 62.9% of pottery assemblage, while in the nearby Nuraghe Bighinzone 93.6%.³⁸ Likewise, Nuragic pottery is prevalent in the Punic and Republican period deposits from Nuraghe Santu Antine (Torralba), suggesting a gradual change rather than an immediate cultural shift in the rural landscape after the Punic conquest of Sardinia.³⁹ This situation supports R.J. Rowland, Jr.'s conclusion that "most of the material evidence as it exists is best explained by punicization of those Nuragic folk who lived within the widening zone of Carthaginian domination and influence."⁴⁰

PUNIC RE-USE OF NURAGIC SACRED WELLS

Considering the aforementioned characteristic of cultural change which took place in Sardinia during the Punic period, it is not surprising that pre-Nuragic and Nuragic monuments continued to constitute an important element of the island's cultural landscape. We see the evidence for the Punic re-use of *domus de janas* (Late Neolithic rock-cut tombs, often associated with the Ozieri culture), such as *domus de janas* Coroneddu (Bosa), where Punic coins were found among the grave goods.⁴¹ Punic material was found in numerous nuraghi, in some of them we see construction phases from the period in question – an example is a Late Punic temenos at the courtyard of Nuraghe Su Mulinu (Villanovafranca).⁴² The re-use of Nuragic monuments often served ritual purposes – in 2005, A. Stiglitz divided this phenomenon (considering both the Late Punic and the Roman periods) into three categories:

³⁸ Michels, G. Webster 1987: 66.

³⁹ Colombi 2008: 16.

⁴⁰ Rowland, Jr. 2001: 80.

⁴¹ Rowland, Jr. 1992: 478; Moravetti 2000: 108. Rowland, Jr. mentions the site as "Coroneddas (Sagama)", but Moravetti notes that no such place, name or archaeological site exists in Sagama – the site being referred to is *domus de janas* Coroneddu (Bosa).

⁴² Ugas et al. 2015: 111.

- 1) Ritual re-use of Nuragic sites with little to no direct relationship to them. An example is the Punic temple at Monte Sirai which was built on the remains of a destroyed nuraghe.
- 2) Ritual re-use of Nuragic cult monuments. This category includes the cases of the Final Bronze/Early Iron Age sacred wells.
- 3) Ritual re use of non-cult monuments. An example is a Punic shrine in Nuraghe Lugherras (Paulilatino), where oil lamps, coins and part of a statue of Bes were found.⁴³

As observed by Stiglitz, the overall characteristic of the ritual re-use of Nuragic monuments in the Late Punic and Republican periods includes prevalence of votive artefacts such as *kernophoroi* and other types of coroplastic art, as well as presence of masks, lamps, coins and pottery.⁴⁴

Both excavations and surveys have provided ample evidence for the re-use of the Nuragic sacred wells and associated structures in Punic Sardinia. Even though the lack of excavations of some of the monuments, insufficient recording of stratigraphy from several sites excavated in the 1st half of the 20th century and destruction of deposits at some sites by illegal digs (a notable case is Sa Linnarta in Onifai, where almost no intact deposits survived⁴⁵) limit the possibility to distinguish wider patterns of the use of Nuragic wells in the Punic period, several observations can be made on the basis of available data. In her catalogue of Nuragic sacred wells and springs, M. Webster lists three wells as displaying evidence for ritual offerings from the Punic period: San Salvatore (Gonnosno), Cucuru Is Arrius (Cabras) and Orri (Arborea),⁴⁶ which will be examined first.

The sacred well of San Salvatore (Gonnosno) is located in a lowland area overlooked by the western edge of the highland plateau of Gesturi in the Sardinian region of Alta Marmilla. The monument was excavated by M.C. Ciccone and E. Usai. The atrium was re-structured in the Punic period, including the construction of a new pavement made of marl blocks, partially covered by a stratum accumulated in the second half of

⁴³ Stiglitz 2021: 77.

⁴⁴ Stiglitz 2005: 725.

⁴⁵ Massetti 1997b: 201.

⁴⁶ M. Webster 2014: 24.

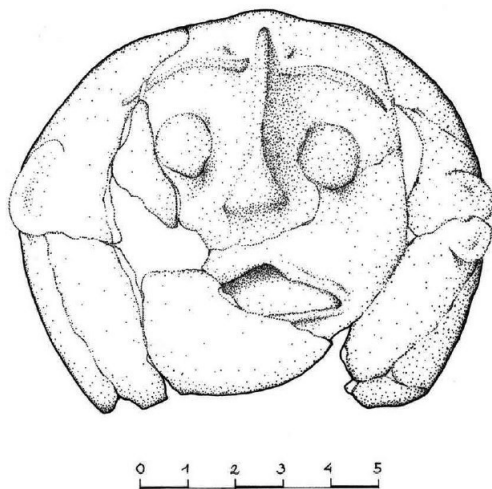
the 3rd century BC, which in turn was covered by a pavement of small tuff stones constructed in the second half of the 3rd century BC. In the same chronological phase as the tuff pavement, Ciccone and Usai discovered a baetyl of one-meter height and 0.6-meter diameter located centrally before the entrance to the staircase, as well as a stone cist which contained a few pottery sherds, charcoal and pieces of burnt animal bones.⁴⁷ These findings clearly indicate that the re-use of the sacred well was not limited to the access to water, but included changes in the architecture of the monument and likely its ritual use demonstrated by the presence of the baetyl and stone cist.

Another example which demonstrates the ritual character of the re-use of Nuragic sacred wells in the Punic period is *pozzo sacro* Cuccuru Is Arrius (Cabras), located in the southern part of the Sinis Peninsula, an area with dense Nuragic occupation and many nuraghi which were re-used in the Punic period. The sacred well was excavated by V. Santoni (1978–1980) and the stratigraphic sequence survived in relatively good condition. In the Late Punic or Republican period, the atrium of the well was transformed into what was probably a sacred area of the dimensions 4.5 meters by 2.5 meters, enclosed by sandstone blocks from the north and south and by a basalt wall preserved up to the height of 0.6 meter from the east. Another addition was a pavement made of small sandstone splinters. Among the finds were female votive figurines of terracotta, *kernophoroi* and numerous animal bones. In the staircase of the sacred well, which was still accessible in the Punic period, four sandstone stelae were recovered (three of them with symbols of goddess Tanit) – they have analogies among some of the Punic-period stele from tophets in Tharros and Carthage. While the sacred area was used mainly in the Late Punic and Republican periods (3rd–1st century BC), the typology of the stelae indicates their earlier origin, likely 5th–4th century BC, which suggests they may constitute evidence for the earliest Punic ritual re-use of this Nuragic monument.⁴⁸ They might have been subsequently re-used in the Republican period as part of the stone altar.⁴⁹

⁴⁷ Ciccone, Usai 2011: 441.

⁴⁸ Del Vais 2014: 119–120.

⁴⁹ Del Vais, Sebis 2015: 22.



4. Head of a clay figurine (*statuina al tornio*) from pozzo sacro Orri (Arborea), after B. Sanna (2009)

A well-documented case of the ritual Punic re-use of a Nuragic sacred well comes from *pozzo sacro* Orri (Arborea), located on a low-land coastal plain in the western part of Sardinia. It was excavated in 2006–2007 and 2008–2009 by B. Sanna, E. Usai and R. Zucca. Already the initial fieldwork, which included examination of layers disturbed by clandestine excavations, revealed fragments of votive figurines similar to those from the Punic sanctuary of Neapolis – together with sherds of Iberic amphorae dated to the 5th century BC and a subsequently un-earthed fragment of *kernophoros* with nose and lips, these finds allowed the aforementioned excavators to identify the sacred well of Orri as a site which was likely re-used for ritual purposes in the Punic period.⁵⁰ Of particular interest is a head of clay figurine (8.4cm x 9.5cm) reconstructed from the fragments found in the atrium of the sacred well, in a layer not disturbed by clandestine digs (Fig. 4). During the third season of excavations, when the deposits in the staircase of the sacred well were explored, numerous almost intact anthropomorphic clay figurines (*statuine al tornio*) were found within the staircase, some of them showing clear analogies to other Punic figurines known from the western regions

⁵⁰ Sanna et al. 2009: 243, 246.

of Sardinia.⁵¹ The unearthed material proves that the sacred well was used not only in the Punic, but also in the Republican period (the finds include sherds of Roman amphorae).⁵²

Punic material was also discovered by A. Taramelli during his 1924 excavations of *pozzo sacro* Predio Canopoli (Perfugas), where a Punic bell and pottery were found.⁵³ Another example of early excavations of a sacred well which unearthed Punic finds is of those carried out in 1938 by Doro Levi at *pozzo sacro* Sa Testa (Olbia), where Punic pottery was found. An artifact of particular interest is a wooden *xoanon* figurine, for which different cultural collocations were suggested, among them Aegean and Punic ones⁵⁴ – its chronology remains subject of debate.⁵⁵

A particularly intriguing, albeit much less certain case of the ritual re-use of a Nuragic sacred well in the Punic period concerns *pozzo sacro* Su Presoni (Cardedu), located two kilometers of the east coast of Sardinia, in a valley between the mountain massifs of Monte Arista to the south and Serra Perdu Pili to the north.⁵⁶ The site has never been excavated, although surface finds include amber and glass beads, a bronze ring and a bronze bracelet, dateable to the Final Bronze or Early Iron Age.⁵⁷ Of particular interest are rock carvings visible on an architrave of the entrance to the staircase. They include three motifs distributed in linear order: a conical-shaped figure with a disc at the top, a vertical line with a crescent and a disc above it, and a schematic human figure (Fig. 5). Giovanni Pitzalis attributes these petroglyphs to the Phoenician or Punic period (two of the petroglyphs bear certain similarities to the symbol of goddess Tanit), suggesting that the aforementioned amber and glass beads might be of Phoenico-Punic origin as well.⁵⁸

⁵¹ Sanna 2011: 453.

⁵² Rasse 2016: 136.

⁵³ Rasse 2016: 163.

⁵⁴ M. Webster 2014: 54.

⁵⁵ Mancini 2010: 69.

⁵⁶ For more detailed discussion of *pozzo sacro* Su Presoni and its local significance, see Namirski 2020: 92–94.

⁵⁷ M. Webster 2014: 84.

⁵⁸ Pitzalis 2008: 29.



5. Carvings on the architrave of *pozzo sacro* Su Presoni (Cardedu)

The Punic re-use of sanctuaries was not limited to the sacred wells themselves, but also included associated settlements. An example is the settlement by the sacred well of Funtana Coberta (Ballao) – in the southern part of the excavated area, deposits from the Late Punic and Republican periods (4th–3rd century BC) were discovered.⁵⁹ Punic coins have been found in a rectangular ritual structure in the sanctuary of Santa Vittoria, including late 4th century BC coins with representations of goddess Tanit, while Punic pottery was found in *Recinto delle Feste*, a large ritual enclosure located within the same Nuragic complex.⁶⁰ There are also recorded cases of Punic finds from the Nuragic springs (*fonti nuragiche*) – an example is that of Punic coins from the destroyed spring of Padenti de Baccai (Lanusei), the exact location of which is uncertain.⁶¹

⁵⁹ Manunza, Orgiana 2020: 298.

⁶⁰ Zucca 1988: 45, 54.

⁶¹ Salis 2012: 5; M. Webster 2014: 80.

CONCLUSIONS

As we can see, the phenomenon of the Punic re-use of Nuragic sacred wells has been documented primarily in the western part of the island (*pozzi sacri* San Salvatore, Orru and Cuccuru Is Arrius are all located in the western regions of Sardinia). Unsurprisingly, this corresponds to some of the main zones of Punic influence which extended primarily in the western and southern parts of Sardinia, especially Sulcis and Iglesiente (South-Western Sardinia).⁶² However, the picture may turn out to be more complicated – considering possible evidence from the eastern regions of the island (Su Presoni in Cardedu, Padenti de Baccai in Lanusei), the possibility that further surveys will prove the Punic settlement network in eastern Sardinia to have been more extensive than previously thought, and the fact that many sacred wells await excavations, it may well turn out that the phenomenon was not geographically confined to the main zones of Punic influence in the island.

The evidence for the ritual re-use of Nuragic sacred wells can also be considered in light of the phenomenon of water cult in Punic Sardinia. In the countryside, we see emergence of numerous small cult places which are often associated with springs – unfortunately, due to relatively little attention they received and lack of systematized approach, the extent of this phenomenon is still insufficiently understood.⁶³ S.L. Dyson and R.J. Rowland, Jr. argue that this type of Punic ritual sites and the associated cult has deep roots in Nuragic, or even pre-Nuragic periods, while at the same time displaying adoption of new influences through the use of specific cult objects, such as votive terracottas.⁶⁴ An example of a Punic ritual structure associated with water is the spring of Mitza Salamu (Dolianova), where votive deposits included masks which can be dated to the 5th century BC – together with the lack of votive offerings typical for the Late Punic period (such as figurines of female divinities)⁶⁵ it allows to date the main period of Punic ritual activity in the spring for the earlier phase of the Punic period. Garbati and Peri suggest that the spring was used for a relatively limited period of time, and that in the 4th–3rd

⁶² Bartoloni 2009: 114.

⁶³ Garbati, Peri 2008: 387.

⁶⁴ Dyson, Rowland, Jr. 2007: 119–120.

⁶⁵ Garbati, Peri 2008: 386.

centuries BC the type of cult represented by it gave way to new forms of ritual activity shaped by Hellenistic influences.⁶⁶

Considering the discussed evidence, it is possible that the water cult and the ritual re-use of Nuragic sacred wells in Punic Sardinia could have carried a certain degree of cultural memory regarding the past significance of those sanctuaries, especially considering the emergence of a hybridized culture with indigenous elements during the Punic period. The phenomenon of re-use of prehistoric and protohistoric monuments in antiquity as means to maintain local identities is known across the Mediterranean, some notable examples coming from Spain (ritual activity by the entrance to dolmen 4 at Las Peñas de los Gitanos, Granada)⁶⁷ – one can speculate whether the re-use of *pozzi sacri* in Punic Sardinia could have played a similar role. Further excavations may help to reveal the extent of the re-use of Nuragic sacred wells during the Carthaginian period, possibly allowing us to look for regional patterns.

REFERENCES

- Alfonso P., La Fragola A., 2014, 'Il santuario nuragico-romano della Purissima di Alghero (SS)', *Quaderni* 25, pp. 223–242.
- Atzeni E., 1987, 'Il tempio a pozzo di Cuccuru Nuraxi: Settimo San Pietro – Cagliari', [in:] *La Sardegna nel Mediterraneo tra il secondo e il primo millennio a. C.*, G. Lilliu, G. Lai, G. Ugas (eds), Cagliari, pp. 279–297.
- Bartoloni P., 2009, *I Fenici e i Cartaginesi in Sardegna*, Sassari.
- Campus F., 2012, 'Orani: Il nuraghe santuario di Nurdole', [in:] *Simbolo di un simbolo. I modelli di nuraghe*, F. Campus, V. Leonelli (eds), Monteriggioni, pp. 228–233.
- Canino G., 2008, 'Il pozzo nuragico nella chiesa di Santa Maria Maddalena a Guamaggiore (Cagliari). Nota preliminare', [in:] *La civiltà nuragica: Nuove acquisizioni 2. Atti del Congresso, Senorbì, 14–16 dicembre 2000*, Cagliari, pp. 391–404.
- Caprara R., 1986, *La necropoli di S. Andrea Priu*, Sassari.

⁶⁶ Garbati, Peri 2008: 395.

⁶⁷ Garcia Sanjuán et al. 2008: 10.

- Ciccone M.C., Usai E., 2011, 'Il pozzo sacro di San Salvatore-Gonnosnò (OR)', [in:] *Tharros Felix* 4, P.G. Spanu, A. Usai, R. Zucca (eds), Roma, pp. 437–450.
- Colombi R., 2008, 'Indigenous Settlements and Punic Presence in Roman Republican Northern Sardinia', *Bollettino di archeologia on-line*, pp. 13–24.
- Contu E., 1999, 'Pozzi sacri: Ipotesi ricostruttive', *Sacer* 6/6, pp. 125–148.
- Del Vais C., 2014, 'Il Sinis di Cabras in età punica', [in:] *Le sculture di Mont'e Prama. Contesto, scavi e materiali*, M. Minoja, A. Usai (eds), Roma, pp. 103–136.
- Del Vais C., Sebis S., 2015, *Il Museo Civico „Giovanni Marongiu” di Cabras*, Sassari.
- Depalmas A., 2009a, 'Il Bronzo Finale della Sardegna', [in:] *Atti della XLIV Riunione Scientifica: La preistoria e la protostoria della Sardegna*, Firenze, pp. 131–140.
- Depalmas A., 2009b, 'Il Bronzo Recente della Sardegna', [in:] *Atti della XLIV Riunione Scientifica: La preistoria e la protostoria della Sardegna*, Firenze, pp. 122–130.
- Dyson S.L., Rowland, Jr. R.J., 2007, *Archaeology and History of Sardinia from the Stone Age to the Middle Ages: Shepherds, Sailors, & Conquerors*, Philadelphia.
- Garbati G., Peri C., 2008, 'Considerazioni sul “culto delle acque” nella Sardegna punica e tardo-punica: L'esempio di Mitza Salamu (Dolianova-CA)', [in:] *Saturnia Tellus: Definizioni dello spazio consacrato in ambiente etrusco, italico, fenicio-punico, iberico e celtico: Atti del convegno internazionale svoltosi a Roma dal 10 al 12 novembre 2004*, X. Dupré Raventos, S. Ribichini, S. Verger (eds), Roma, pp. 385–395.
- García Sanjuán L., Garrido González P., Lozano Gómez F., 2008, 'The Use of Prehistoric Ritual and Funerary Sites in Roman Spain: Discussing Tradition, Memory and Identity in Roman Society', [in:] *TRAC 2007: Proceedings of the Seventeenth Annual Theoretical Roman Archaeology Conference, London 2007*, C. Fenwick, M. Wiggins, D. Wythe (eds), Oxford, pp. 1–13, https://doi.org/10.16995/TRAC2007_1_13.
- Ialongo N., 2013, 'Sanctuaries and the Emergence of Elites in Nuragic Sardinia during the Early Iron Age (ca. 950–720 BC): The Actualization of a Ritual Strategy', *Journal of Mediterranean Archaeology* 26/2, pp. 187–209, <https://doi.org/10.1558/jmea.v26i2.187>.
- Lilliu G., 1999, *La civiltà nuragica*, Sassari.
- Manunza M.R., Orgiana A., 2020, 'Funtana Coberta – Ballao: I nuovi scavi 2014–2016', [in:] *Notizie & scavi della Sardegna nuragica*, G. Paglietti, F. Porcedda, S.A. Gaviano (eds), Dolianova, pp. 298–303.

- Mancini P., 2010, *Gallura orientale: Preistoria e protostoria*, Olbia.
- Massetti S., 1997a, 'Irgoli (Nuoro). Località Su Notante', *Bollettino di archeologia* 43–45, pp. 192–195.
- Massetti S., 1997b, 'Orosei-Onifai (Nuoro). Località Sa Linnarta', *Bollettino di archeologia* 43–45, pp. 196–202.
- Michels J., Webster G., 1987, *Studies in Nuragic Archaeology: Village Excavations at Nuraghe Urpes and Nuraghe Toscono in West-Central Sardinia*, Oxford, <https://doi.org/10.30861/9780860544814>.
- Moravetti A., 2000, *Ricerche archeologiche nel Marghine-Planargia. La Planargia – analisi e monumenti: Parte seconda*, Sassari.
- Moravetti A., 2003, *The Nuragic Sanctuary of Santa Cristina*, Sassari.
- Namirski C., 2020, *Nuragic Settlement Dynamics: The East Coast of Sardinia*, Oxford, <https://doi.org/10.30861/9781407357669>.
- Orgiana A., Marcialis P., 2020, 'Fonte nuragica di Miscimili (Nurri, SU)', [in:] *Notizie & scavi della Sardegna nuragica*, G. Paglietti, F. Porcedda, S.A. Gaviano (eds), Dolianova, pp. 311–318.
- Paglietti G., 2015, 'Dal pozzo al pozzo sacro. Riflessioni sulla cronologia del "tempio a pozzo" isodomo di Santa Vittoria di Serri', [in:] *Il Santuario di Santa Vittoria di Serri: tra archeologia del passato e archeologia del futuro*, N. Canu, R. Cicilloni (eds), Roma, pp. 283–292.
- Pais E., 1999, *Storia della Sardegna e della Corsica durante il periodo Romano. Volume primo*, Nuoro.
- Perra M., 2009, 'Osservazioni sull'evoluzione sociale e politica in età nuragica', *Rivista di scienze preistoriche* 59, pp. 355–368.
- Perra M., 2018, *Alla mensa dei Nuragici. Mangiare e bere al tempo dei nuraghi*, Sassari.
- Pettazzoni R., 1912, *Religione primitiva in Sardegna*, Piacenza.
- Pitzalis G., 2008, 'L'Ogliastra in età preistorica', [in:] *Ogliastra, storia e società*, t. 1: *La storia*, Barisardo, pp. 17–38.
- Rassu M., 2016, *Pozzi sacri. Architetture preistoriche per il culto delle acque in Sardegna*, Cagliari.
- Rowland, Jr., R.J., 1992, 'Carthaginians in the Countryside?', [in:] *Sardinia in the Mediterranean: A Footprint in the Sea*, R. Tykot, T.K. Andrews (eds), Sheffield, pp. 474–483.
- Rowland, Jr., R.J., 2001, *The Periphery in the Center: Sardinia in the Ancient and Medieval Worlds*, Oxford, <https://doi.org/10.30861/9781841712574>.
- Salis G., 2012, *Lanusei. Il complesso archeologico di Seleni*, Sassari.

- Sanna B., 2011, 'Statuine al tornio puniche dal santuario costiero di Orri-Arborea (OR)', [in:] *Tharros Felix* 4, A. Mastino, P.G. Spanu, A. Usai, R. Zucca (eds), Roma, pp. 451–466.
- Sanna B., Usai E., Zucca R., 2009, 'Il santuario costiero di Orri (Arborea)', [in:] *Naves plenis velis euntes*, A. Mastino, P.G. Spanu, R. Zucca (eds), Roma, pp. 236–257.
- Santoni V., 1982, 'Cabras-Cuccuru S'Arriu. Nota preliminare di scavo (1978, 1979, 1980)', *Rivista di studi fenici* 10/1, pp. 103–127.
- Stiglitz A., 2005, 'Il riutilizzo votivo delle strutture megalitiche nuragiche in età tardopunica e romana', [in:] *Depositi votivi e culti dell'Italia antica dall'età arcaica a quella tardo-repubblicana. Atti del Convegno di Studi Perugia, 1–4 giugno 2000*, A. Comella, S. Mele (eds), Bari, pp. 725–737.
- Stiglitz A., 2021, 'Beyond the Nuraghe: Perception and Reuse in Punic and Roman Sardinia', [in:] *Gardening Time: Monuments and Landscape from Sardinia, Scotland and Central Europe in the Very Long Iron Age*, S. Stoddart, E.D. Aines, C. Malone (eds), Cambridge, pp. 75–96.
- Tanda G., Bagella S., Depalmas A., 2003, 'Articolazioni cronologiche nell'ambito della tomba di giganti 2 di Iloi', [in:] *La tomba di giganti 2 di Iloi (Sedilo-OR)*, G. Tanda (ed.), Sassari, pp. 99–102.
- Ugas G., Casu L., Muntoni A., 2015, 'Su Mulinu: le architetture del nuraghe e del villaggio tra il Bronzo Medio e il I Ferro. La petrografia dell'edilizia nuragica', [in:] *Un nuraghe per la dea luna: Su Mulinu di Villanovafranca nelle ricerche dal 1984 al 2003. Un contributo per un nuovo progetto museale*, G. Ugas, A. Saba (eds), Ortacesus, pp. 87–126.
- van Dommelen P., 1997, 'Colonial Constructs: Colonialism and Archaeology in the Mediterranean', *World Archaeology* 28/3, pp. 305–323, <https://doi.org/10.1080/00438243.1997.9980350>.
- Webster G., 1996, *A Prehistory of Sardinia 2300–500 BC*, Sheffield.
- Webster G., 2015, *The Archaeology of Nuragic Sardinia*, Sheffield.
- Webster M., 2014, *Water-Temples of Sardinia: Identification, Inventory and Interpretation*, Uppsala.
- Wilkens B., 2000, 'Resti culturali dal pozzo sacro di Serra Niedda (SS)', [in:] *Atti del 2° Convegno Nazionale di Archeozoologia (Asti, 1997)*, Forlì, pp. 263–266.
- Zucca R., 1988, *Il santuario nuragico di S. Vittoria di Serri*, Sassari.

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