

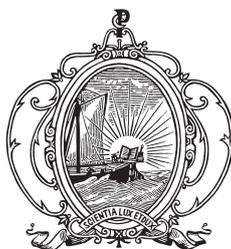
ORIENTALIA LOVANIENSIA
ANALECTA
————— 268 —————

CONTEXT AND CONNECTION

Studies on the Archaeology of the Ancient Near East
in Honour of Antonio Sagona

edited by

ATILLA BATMAZ, GIORGI BEDIANASHVILI,
ALEKSANDRA MICHALEWICZ and ABBY ROBINSON



PEETERS
LEUVEN – PARIS – BRISTOL, CT
2018

KARMIR SAR: NEW EVIDENCE ON DRAGON STONES AND RITUAL LANDSCAPES ON MOUNT ARAGATS, ARMENIA

Arsen BOBOKHYAN, Alessandra GILIBERT and Pavol HNILA

ABSTRACT

Archaeological investigations demonstrate that in the ancient South Caucasus there existed three levels of human use of the landscape. These levels correlated to three different altitude zones: lowland, foothills and uplands, which we may call ‘low’, ‘middle’ and ‘high’ zones. This ‘vertical zonality’ conditioned all cultural developments in the region and constituted an integrated system—a chain, each link of which was dominant during particular periods. An important link in this chain were transhumant pastoralists, who each summer moved—as they still do—with their flocks to high-altitude pastures. These places also functioned as ritual landscapes. The recently discovered Bronze Age site of Karmir Sar on Mount Aragats (2850 m a.s.l.) in Armenia is a unique high-altitude sacred site. Its archaeological investigation adds important data to our knowledge about the early social processes in the region. Karmir Sar is a vast meadow surrounded by small hills, with stone circles and at least ten monumental stelae (*vishaps* or ‘dragon stones’) scattered over an area of *c.* 40 ha, the highest thus far known concentration of *vishaps* at a single site. This article discusses this specific kind of Bronze Age high-altitude sacred landscape in its wider prehistoric context, and presents the results of the excavation at and around the *vishap* ‘Karmir Sar 10’, for which we propose a preliminary date within the transitional period between the Middle and Late Bronze Ages (*c.* 17th–16th centuries BC). We also discuss the *longue durée* of the *vishap* phenomenon, taking into account a persisting ‘sacredness’ reflected in place names, medieval texts and local folk traditions.*

* * *

INTRODUCTION

In 2012, the Institute of Archaeology and Ethnography of the Armenian Academy of Sciences and the Institute of Ancient Near Eastern Studies of the Free University of Berlin set out together to explore the phenomenon of the *vishaps*, or “dragon stones”. The vernacular term *vishap* (Eng. “dragon”) designates monumental stone stelae decorated with animal imagery, found in the mountains of the South Caucasus with an epicentre in the modern Republic of Armenia (**Fig. 1**). According to their shape and iconography, these stelae can be divided into three main categories: *vishaps* sculpted in full relief in the shape of a fish (the *piscis* class); *vishaps* with the image of a bovid hide draped on them (the *vellus* class);

* We would like to express our gratitude to Dr Pavel Avetisyan (Institute of Archaeology and Ethnography, Armenian Academy of Sciences) as well as to Prof Dr Jörg Klinger and Prof Dr Brigitta Schütt (both Free University of Berlin) for their manifold and constant support of the “Vishap Project”. We also thank the Fritz Thyssen Stiftung for their generous financial support.

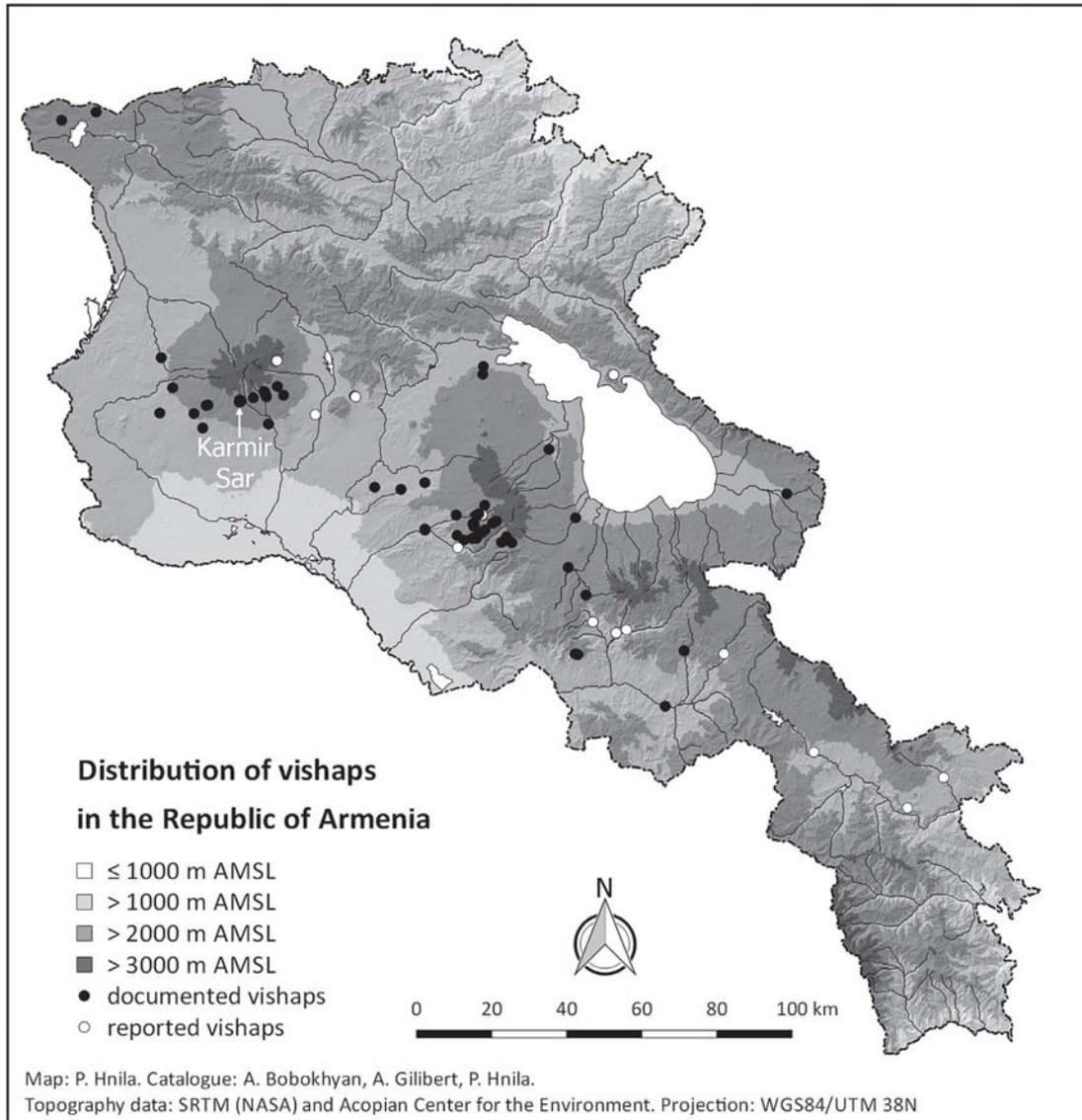


Fig. 1. Distribution of vishaps in the Republic of Armenia (map by P. Hnila).

and vishaps combining both iconographies on a single stone (the *hybrid* class). Although the existence of these stones has been known for over a century, their remote locations, hidden up in the mountains, discouraged archaeological exploration.¹ When our Armenian-German team started, only largely hypothetical discussions of the possible meaning of their imagery, in the larger context of Armenian folklore, existed. Their geographical distribution patterns, archaeological contexts, dates, and functions had never been the object of scientific study. Three fieldwork seasons later, we have collected enough data to allow a number of preliminary observations on each of these points. We are honoured to present them here in most compact form, as a modest homage to Antonio Sagona on the occasion of his birthday, inspired by his studies on “social boundaries and ritual landscapes” in the Bronze Age

¹ For definition and the history of investigation of vishaps, as well as for a preliminary report on our work, see Gilibert *et al.* 2012.

Caucasus.² The pivot of our discussion will be the preliminary results of our excavations at Karmir Sar, a hitherto unknown site spectacularly located at 2850 m a.s.l. on Mt Aragats. There we recorded at least ten vishaps *in situ*; that is, the highest concentration of these monumental stones known so far at a single site.

THE SITE OF KARMIR SAR AND DISTRIBUTION PATTERNS OF DRAGON STONES ON MOUNT ARAGATS

Mt Aragats (4090 m. a.s.l.) is the highest mountain of the Republic of Armenia, and one of its most ancient cultural habitats (see **Figs 1, 2**).³ Geologically, the mountain is a large polygenetic volcano, first active in the Late Pliocene (*c.* 2.5 million years BP) and then repeatedly active during the Middle and Late Quaternary, with eruptions from the main crater as well as from satellite cones and fissures on the slopes. Among its youngest geological features (*c.* 500,000 years BP) is a large-volume lava flow coming from a monogenetic flank vent located at 2850 m a.s.l. on the mountain's southern slope, labeled Tirinkatar (“Tir’s Height”) in the geological literature,⁴ but commonly known by the local pastoralist communities as “Karmir Sar” (“Red Hill”).⁵ In time, the ancient flank vent has turned into a flat meadow of over 50 ha, a very attractive summer pasture, rich in grass and water, with spectacular views both of the Aragats peak and of Mt Ararat, rising 55 km to the south (**Fig. 3**). In the course of the second millennium BC, this site was selected as a location for erecting vishaps. Thus it turned into a monumental site with an evident religious and ritual meaning. In modern times, a sanctuary and burial field bespeak its persisting religious significance—and, as we shall see, the vishaps themselves continue to be objects of ritual use up to the present day.

The archaeological site of Karmir Sar was unknown to the scientific community until our first visit in June 2012. Nonetheless, traces of ancient human presence in the area have long been known.⁶ In their studies of prehistoric water management systems on Mt Aragats, Ashkarbek Kalantar and, later, Grigor Kapantsyan devoted some observations to “twelve canals” built in the gorge of the river Anberd to divert the river water to foothill villages

² Sagona 2004.

³ Kalantar 1935; Badalyan and Avetisyan 2007; Smith *et al.* 2009.

⁴ Meliksetyan 2012, pp. 40, 44; Connor *et al.* 2012, pp. 5–7, 11, 16. In Armenian mythology the god Tir is connected among other things to mountains, waterways, ancestors, bulls and dragons (Kocharyan 2005). He is present in Zoroastrianism as rainfall-and-fertility god, also known as Tištrya. In the Zoroastrian calendar, his name also identifies the month June 21–July 21: see Panaino 1995.

⁵ The toponym refers to red pumice that accumulated on a lateral sector of the area, forming a distinctive little “hill”. In the literature, the area surrounding and including the archaeological site of Karmir Sar is alternatively also identified as Tirinkatar, Tirankatar, Gizil Zialet, Giziltagh, Daghtapa, Kızıldagh, or Kızıl Zialet. Tirinkatar is the name current in the geographical and geological literature (Balyan 1969, p. 229; Aslanyan and Vehuni 1970, p. 416; Siebert *et al.* 2010, p. 465; Meliksetyan 2012, pp. 40, 44; Connor *et al.* 2012, pp. 5–7, 11, 16). The toponym Tirinkatar also appears on Soviet 1:50,000 and 1:100,000-scale military maps, based on a topographical survey made in 1951 and updated in 1973/1974. The toponym Kızıl Zialet (Turkish *Red Sanctuary—ziyaret* means “[place of] pilgrimage”) is used in the late 19th century by the Armenian Mekhitarist Ghévond Alishan (1890, p. 132; see also Eprikyan 1902, pp. 273, 493), and it also appears on Russian tsaristic 5-verst maps (Pagirev 1913, p. 132; see also Nazaryan 1974, p. 678; Aslanyan and Grgearyan 1981, p. 190). Karmir Sar is the Armenian version of the toponym commonly in use nowadays by those who live in and around this side of the mountain; Giziltagh and Kızıldagh are Turkish vernacular variants of Karmir Sar.

⁶ As well as its distinctive natural features: in the 1920s–1930s red volcanic cones commonly labeled “kızıl” were listed by the Soviet-Armenian officials as “touristic sights”: Kalantar 1925, p. 219; Karapetyan 1934, pp. 51–52.

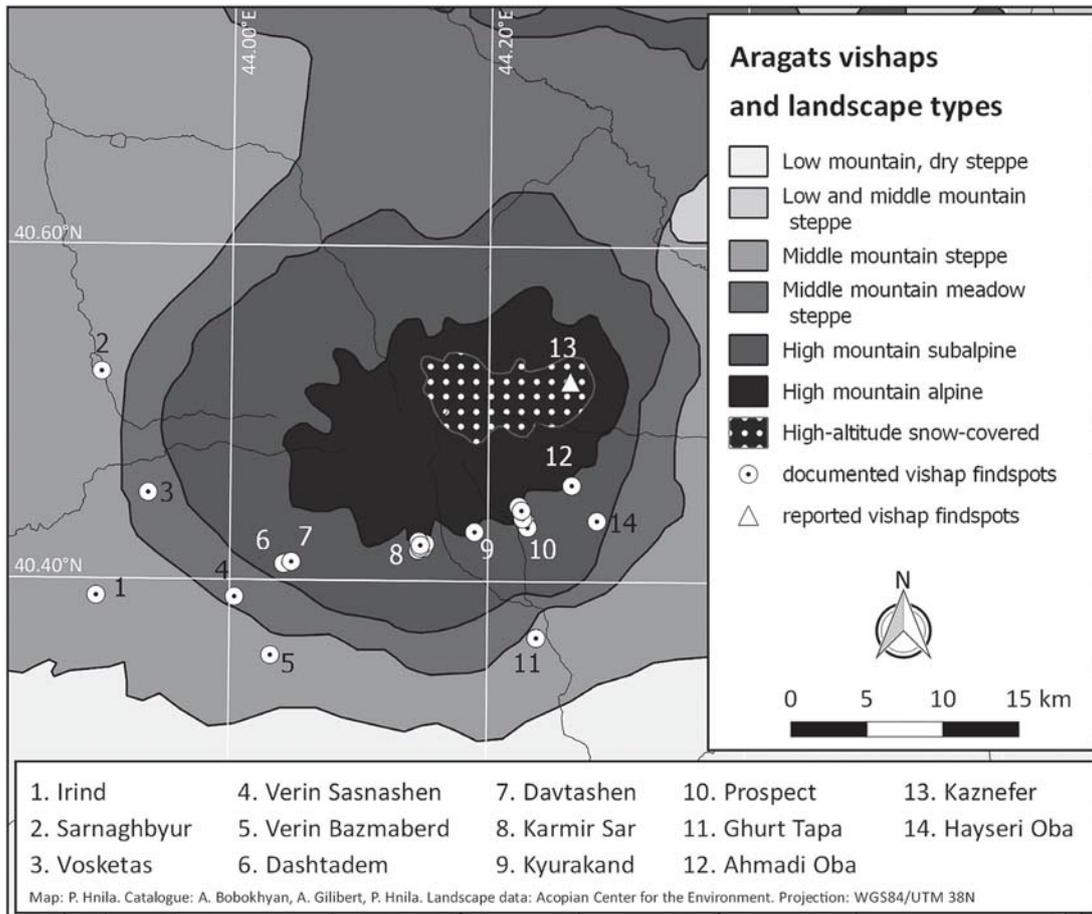


Fig. 2. Aragats vishaps and landscape types (map by P. Hnila).

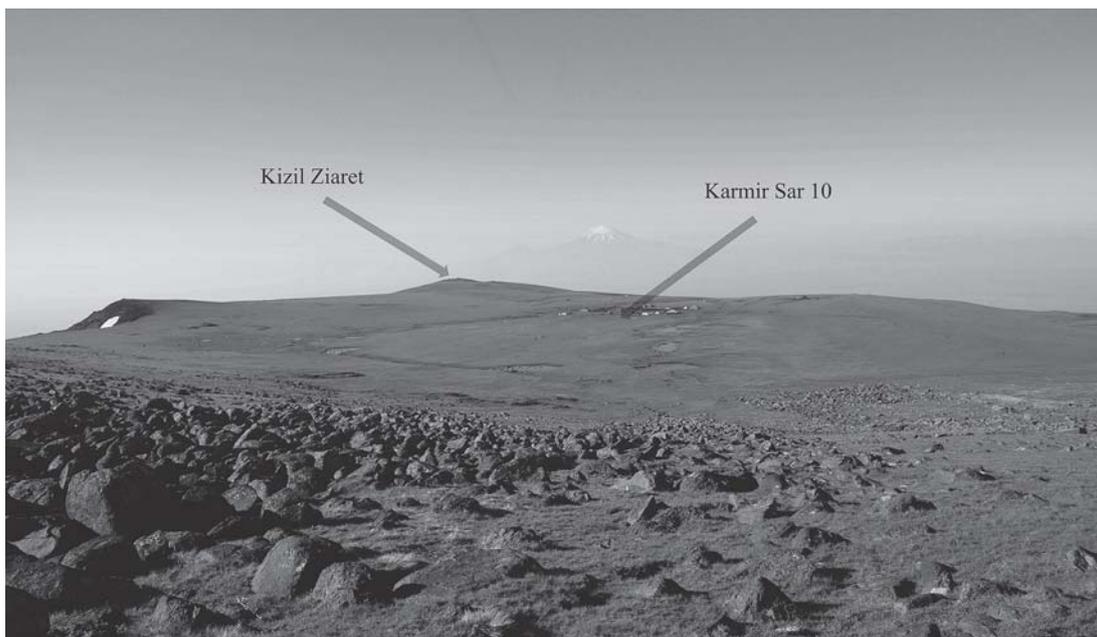


Fig. 3. Karmir Sar, general view (photo by A. Bobokhyan).

(and their summer pastures).⁷ Neither of them appears, however, to have been aware of the existence of Karmir Sar, located just above the beginning of this canal system. In the foothill settlement of Ashtarak, however, Kapantsyan did hear and record stories about a certain Kızıl Ziyaret, allegedly a sacred place connected with the Armenian deity Ara. Kapantsyan was told that at the site there was “a stone throne with stone chairs,” and other stone images.⁸ Kapantsyan assigned the task of visiting Kızıl Ziyaret to the Russian architect Nikolay Tokarski. Tokarski explored the surroundings of the Anberd fortress in 1935 and came back to the southern slopes of Mount Aragats in 1936, during an archaeological expedition led by Boris Piotrovskiy, but he could never locate the site.⁹ We propose identifying Kızıl Ziyaret as known from oral information collected by Kapantsyan with the archaeological site of Karmir Sar, first documented by our team in 2012.

So far, archaeological remains detected at Karmir Sar consist of stone circles (“cromlechs”) and at least 10 vishaps, both distributed unevenly over an area of 40 ha (**Fig. 4**). Although the dense turf hinders an entirely systematic approach, it appears that each of the vishaps—all of which lie on the ground—is invariably associated with a stone circle.¹⁰ Before analysing more closely the nature of these associations, however, let us focus for a moment on the general characteristics of the site and offer some thoughts on the distribution patterns of vishaps on Mt Aragats.

Karmir Sar is a high-altitude pastureland located at the uppermost fringe of the summer pastures, which, on Mount Aragats, are distributed between 2000 and 3000 m a.s.l. Essentially, the site is a flat, large, and slightly concave meadow, with a distinctly secluded aspect about it: because it is shaped like a shallow basin, you do not really see it until you get there. Thus, the vishaps erected at Karmir Sar in such significant number did not function as a landmark. In fact, even taking into account their original vertical position, the vishaps were placed in such a way as to make them impossible to see from the surrounding landscape, and from other sites with vishaps.

In the course of our survey of the southern slope of Mt Aragats, we identified another six sites with clusters of vishaps (**Fig. 2.6–11**). These sites share almost exactly the same geographical characteristics and the low visibility of Karmir Sar (they are “hidden meadows”), although two of the six (nos. 6 and 11) are located at a slightly lower altitude. Thus, we may provisionally conclude that, on the south slope of Mt Aragats, clusters of vishaps are located on high-altitude, low-visibility summer pastures, quite evenly distributed in the region between the 2800 m and 2300 m contour lines, like points of a crown.

There also exists a second, parallel and perhaps in some way complementary, pattern of distribution of vishaps: in the southwestern quadrant of the mountain, we identified a number of isolated vishaps at a much lower altitude, in the marginal region where the last permanently settled villages and agricultural fields lie (in the range of 1700–2000 m a.s.l.). The visibility of these locations is still low and not entirely dissimilar from the hidden meadows of the high-altitude pastures. So far, however, in these foothill locations vishaps seem never to come in clusters, but only as single monuments.

⁷ Kalantar 1925, p. 221; Kapantsyan 1945, pp. 147, 170–171.

⁸ Kapantsyan 1945, pp. 99, 110, 148; Kapantsyan 2008, pp. 15–16. This information survived in some way until today: our team was directed to Karmir Sar in 2012 by an inhabitant of Byurakan, who told us that “a stele representing a king with a crown” was to be found there.

⁹ Kapantsyan 2008, pp. 15–16; The Piotrovskiy expedition found vishaps near Karilich, on the opposite side of the Anberd gorge: Piotrovskiy 2009, pp. 138, 291.

¹⁰ For a description of the vishaps, see Gilibert *et al.* 2012, pp. 121–122.

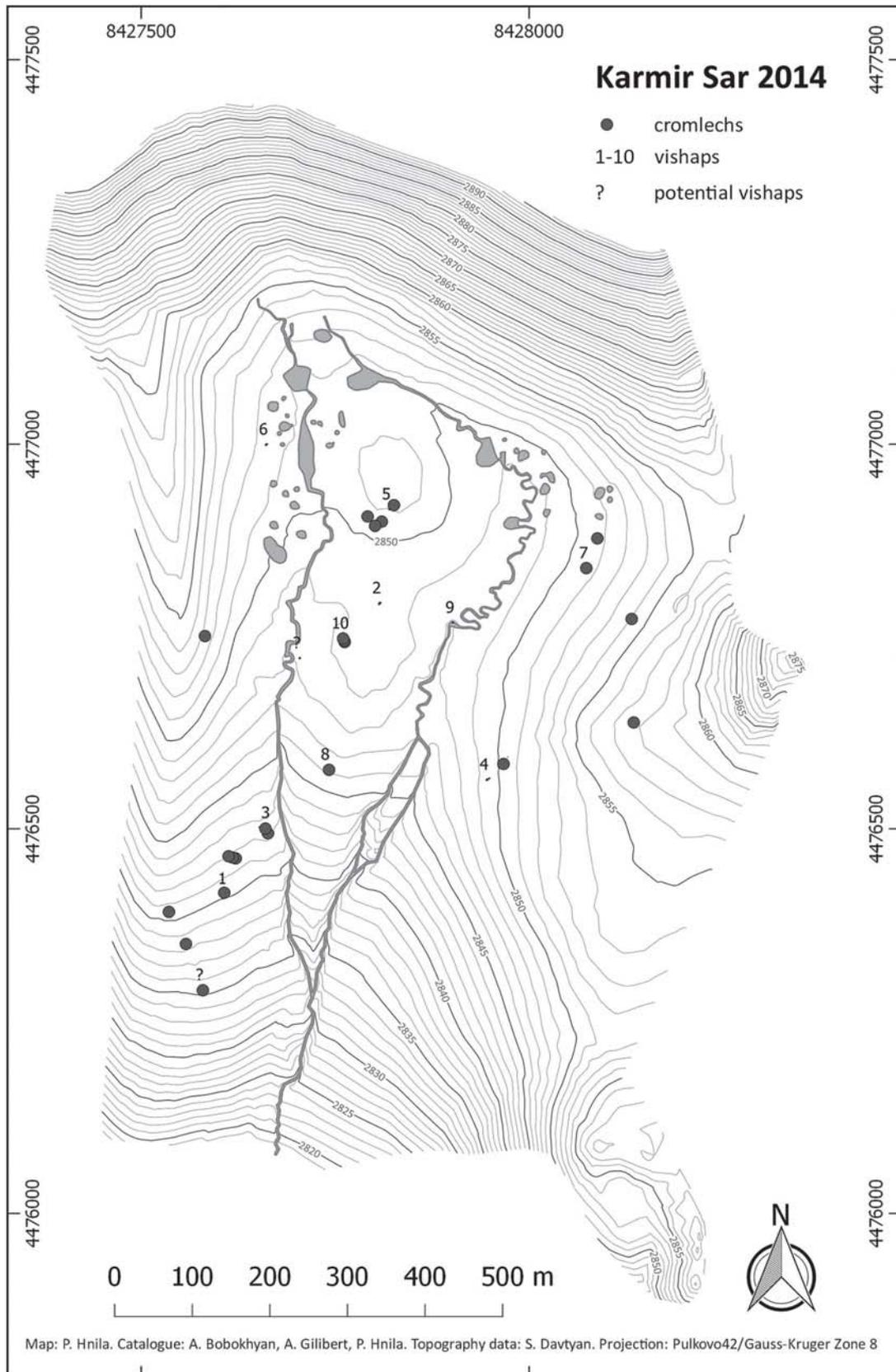


Fig. 4. Topographic map of Karmir Sar (data by S. Davtyan, map by P. Hnila).

This dual pattern of distribution is open to different interpretations and may still be biased by the early stage of our research and a generally poor knowledge of high-altitude regions—particularly in regard to the striking absence of vishaps detected in the northern quadrants of the mountain. However, we also observed an uneven distribution of vishaps in the Geghama Mountains, where vishaps are mostly located on the western slopes. These configurations may reflect a higher population density on the Ararat Plain, which the southern quadrant of Mt Aragats and the western slopes of the Geghama Mountains border. In fact, a possible scenario—and the one that we find most convincing so far—is to assume a correlation between the vishaps and the groups living in foothill villages with a mixed agro-pastoral subsistence economy, practising vertical transhumance to and from high-altitude pastures in the summer months.¹¹ That much may be said so far. The survey that led to the collection of this information is not yet concluded, and further investigation to qualify and explain the results is pending.

THE ARCHAEOLOGICAL CONTEXT OF “KARMIR SAR 10” AND THE DATING OF VISHAPS

In the course of two excavation seasons at Karmir Sar in the years 2013–2014, our team investigated the archaeological context of the vishap “Karmir Sar 10”. Operation A, as we labelled it, exposed three adjacent circular stone structures, with a 2.7 m-long *piscis*-vishap carefully embedded in the centre of the northernmost structure (**Figs 5, 6**). As usual for this kind of monument, the vishap has an irregular “tail” that when the monument stood in a vertical position was underground. Investigation of the stone circle inside which the vishap was located revealed a relatively narrow, 60 cm-deep round pit underneath the “belly” of the vishap. Inside the pit, we recorded three medium-sized stones and a single charred sherd. We interpret this feature as the foundation pit for the standing stele. At a certain point of its early history, however, the vishap was removed from its vertical position, set horizontally at the centre of the structure and partially, yet carefully, covered with small-sized stones—as if in a ritual burial.

We recorded a second pit underneath the stones set at the point of tangency between the northern circle and the smaller, middle circle. Inside this pit, a broken vase and a red pumice stone, worked in the shape of a grooved egg, were found (**Fig. 7a, b**). The function of the “grooved egg” is as yet unclear: similar objects known from archaeological and ethnographical literature are explained as stylised idols, *bola*-s for hunting birds, or fishing floats.¹²

¹¹ Kalantar 1925; Kapantsyan 1945, p. 154; Martirosyan 1969, pp. 192–193. Vladimir Gurko-Kryazhin was among the first scholars who proposed connecting the vishaps to permanent settlements at lower altitudes (Gurko-Kryazhin 1926, pp. 217, 220; see also Khudakov 1937, pp. 206–207). As for the settlement system of the southern slopes of Aragats, investigations show that, concerning altitudes between c. 1000 and 2000 m a.s.l., the earliest settlements date back to the Early Bronze Age (Dsyamberd, Akhtamir, Bazmakn). The number of settlements decreases in the Middle Bronze Age (but permanent settlements still exist, as in the case of the sites of Akhtamir and Bazmakn) and finally increases to an unprecedented degree during the Late Bronze and Early Iron Ages (Tegher, Sahakaberd, Motkan, Vank Kharaba, Nazaravan, Shamiram, Dsyamberd, Mughni, Ushi, Zuyg Aghbyur, Akhtamir, Bazmakn, Kosh, Avan, Orgov): see Areshyan *et al.* 1977. For recent investigations of Bronze and Iron Age settlement systems in Armenia, particularly around Aragats and Geghama Mountains, see Biscione *et al.* 2002; Badalyan and Avetisyan 2007; Smith *et al.* 2009.

¹² Such objects made of solid stones, tufa and pumice are typical especially for Early and Middle Bronze Age Armenia (Khanzadyan 1969, pp. 30–31; Khachatryan 1975, p. 75).

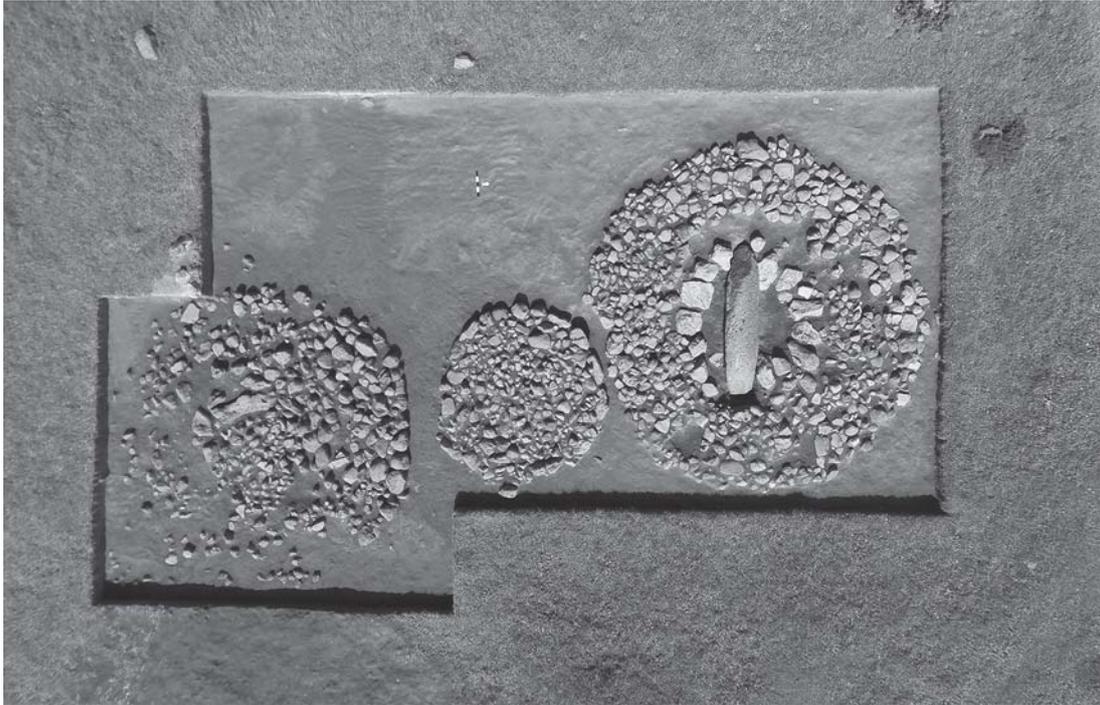


Fig. 5. Karmir Sar 10, aerial view of structures before opening the slabs of the central and southern circles; the north is on the right (photo by “Bars Media”, Yerevan).

A third pit was located at the centre of the middle stone circle, covered by two large stone slabs. To the northeast of the eastern slab, in between the small stones, was an accumulation of pottery sherds, able to be restored as an open vessel (**Fig. 7c**). The pit was round in shape, 60 cm deep and 1 m in diameter. At its bottom, together with broken obsidian pieces, we recorded a large rim sherd belonging to the vase deposited in the second pit.

A fourth and final pit was excavated at the centre of the southernmost stone circle. The pit, which was perhaps disturbed in antiquity, was originally square in shape (*c.* 170 × 170 cm) and lined with stone slabs. At the bottom of the pit, we found a small ceramic bowl, a miniature vase (**Fig. 7d, e**), and a small collection of obsidian fragments.

Obsidian splits and flakes from at least three different geological sources (the analysis is pending) were found scattered on the stone circle with the vishap. Obsidian fragments were also found scattered on the two other stone structures, although these were fewer. Further obsidian splits, together with cores and occasional tools were found scattered on the original surface around the structures, and also deliberately wedged between the stones. Occasionally, pottery was also found wedged between the stones, apparently intentionally broken. Further fragments of pottery, some of which again belonged to the vase deposited in the second pit, were found scattered on the original surface around the structures.

The pottery finds are homogeneous; provisionally, we favour a date from the transition period between the Middle Bronze Age III and Late Bronze Age I, that is, *c.* 17th–16th centuries BC.¹³ Their distribution patterns within the excavated area indicate that the three structures are coeval and part of a single monumental ensemble. The pottery deposited inside

¹³ See parallels in Avetisyan and Bobokhyan 2008, figs 31–37; Badalyan and Avetisyan 2007, pp. 277–279, pls III, V.

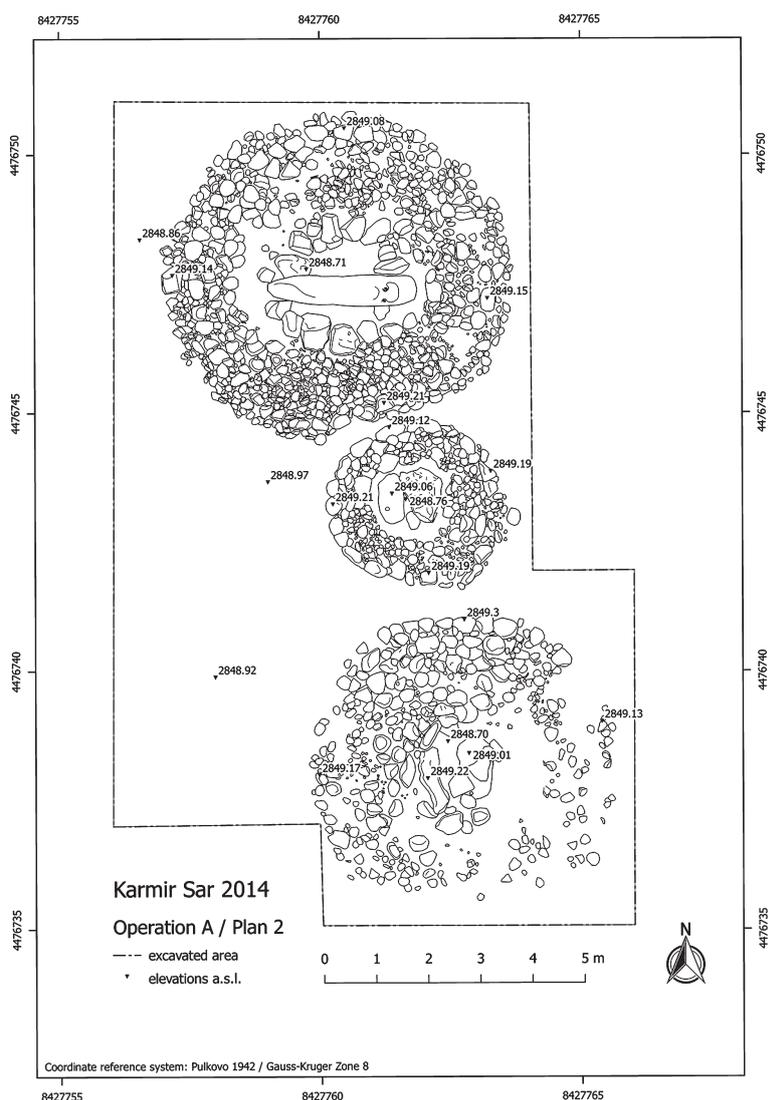


Fig. 6. Karmir Sar 10, drawing of structures after opening the slabs of central and southern circles (drawing by A. Gilibert).

the structures confirms their ritual significance. The obsidian finds—comprising cores, instruments, splits that may have been used as impromptu instruments, and a number of minuscule flakes—may indicate that some sort of cutting and/or scraping activities took place while the structures were being built and in the period immediately following. The circular form of the structures, evidently identical to that of the standard Bronze Age tombs, as well as the presence of a “chamber” beneath the southernmost stone circle (the square pit mentioned above), point to a direct connection with burial rites, although the total absence of any kind of bones is still to be explained (the structures may have been cenotaphs, or else skeletal remains may have been completely degraded by the action of soil microorganisms and/or chemical agents¹⁴). While we await new evidence from the chemical analysis of the

¹⁴ Bones that come from soil horizons where water repeatedly flows around and through the bones, as is the case in Karmir Sar, are generally very poorly preserved and such conditions may in some cases lead to a total leaching of the body (Turner-Walker 2008, pp. 11–12).

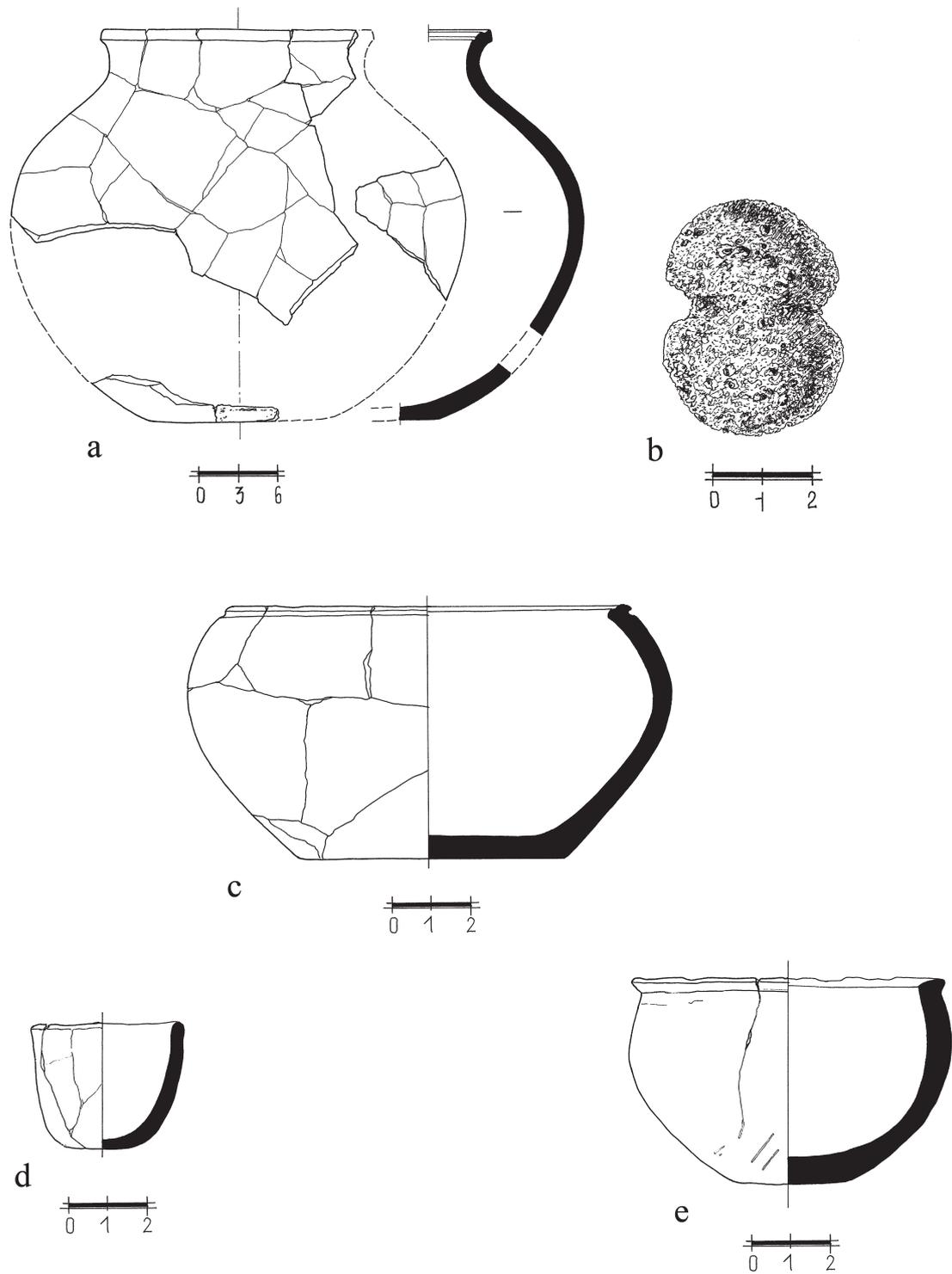


Fig. 7. Karmir Sar 10, clay vessels and an egg-shaped artefact from the second (*a, b*), third (*c*) and fourth (*d, e*) pits (drawings by N. Mkhitarian).

soil and further excavations, based on the preliminary observations at and around “Karmir Sar 10”, we favour an interpretation of the vishaps as a specific form of commemorative monument, to be dated to the late part of the first half of the second millennium BC.

A significant number of key questions remain to be investigated. These questions notwithstanding, we might venture to formulate a set of hypotheses to understand what kind of social organisation was behind the vishaps. So far, a total of 25 vishaps has been recorded on Mt Aragats. This is a low figure if compared with the total number of Middle Bronze Age stone circles in the same region; thus, we assume that these monuments were erected upon special and comparatively rare occasions. The preparation of a vishap necessarily required a striking mobilisation of resources and must have involved a communal effort. Furthermore, at least in the case of the high-altitude sites, this effort had to take place within a well-defined chronological window in summer, when the sites were snow-free. However, at least judging by the modest depositions in the undisturbed context that we excavated, the investment in work was not accompanied by “conspicuous consumption” of luxury goods. This may indicate that, beyond ritual and religion, an important motivation was to demonstrate the ability of a social group, or part of a social group (the clan of a “big man”?), to gather together a workforce that will strive for a common purpose. This scenario dovetails into the social transformations under way in South Caucasus at the end of the Middle Bronze Age. In the 17th and 16th centuries BC, archaeological horizons indicate the increasing emergence of social inequality. Yet, in this period, social inequality was not formalised in an “institutionalised matrix”, as would be the case in the Late Bronze Age.¹⁵ In terms of cultural anthropology, the monuments at Karmir Sar may be seen as the manifestation of the efforts of an achievement-based society at the point of transition to an hereditary ranked society. According to this model, which at present we recognise as one possibility among others, the vishaps may be monuments to the achievements of an individual, or a subset of a social group, who had been able in life to accumulate renown, mobilise labour, and sponsor feasts and rituals. Later on, perhaps, when hereditary rank and social inequality became institutionalised, the practice of erecting this kind of monument was abandoned.¹⁶

THE AFTERLIFE OF THE VISHAPS AND KARMIR SAR AS A LONG-TERM SACRED SITE

At an unspecified point in their early history, vishaps ceased to stand upright, either because of natural dilapidation of their foundations, or, as in the case of “Karmir Sar 10”, as a result of an intentional effort to lay them down in an orderly fashion. The petroglyph of a long-horned caprid pecked onto the vishap “Karmir Sar 1”, evidently produced when the vishap was not standing anymore, proves that this secondary process was already under way in prehistoric times.¹⁷ The petroglyph also bespeaks a significance for the vishaps that, changes and vicissitudes notwithstanding, persists until today, as is almost always the case with megalithic monuments.¹⁸ In the medieval period, vishaps were very probably used as

¹⁵ Badalyan *et al.* 2003, p. 152.

¹⁶ For this “evolutionary” approach, refer Flannery and Marcus 2012.

¹⁷ For Karmir Sar 1, see Gilibert *et al.* 2012, p. 114, fig. 20. This is the only petroglyph known to have been incised onto a vishap, and in fact one of the very few examples of petroglyphs on a datable support anywhere. Petroglyphs are quite common in the Armenian mountains, and it is not unusual for clusters of petroglyphs to be located near vishap sites. Whether or not, and if so, how, a relation exists, is open to discussion.

¹⁸ See Bradley 2002, pp. 40, 43, 48, 102–113.



Fig. 8. The *zyialet* at Karmir Sar, modern state of the shrine with “dedication” stone piles (photos by A. Bobokhyan).

canvases for tribal signs (there is a datable *tamga* on “Karmir Sar 1”) or—as in the well-documented case of the vishaps at Ulgyur, Syunik region—turned into Christian *khachkars* (cross-stones).¹⁹ The name *vishap* itself appears to be a folk etymology, probably dating to medieval times, when the *vellus* images were misunderstood for or re-interpreted as images of dragons.

Even today local shepherds ascribe to vishaps an aura of sacredness and mystery. The story goes that they mark the “tombs of giants”,²⁰ and, in the Geghama Mountains, at the vishap “Diktash 1”,²¹ our team recorded traces of a contemporary Yazidi offering ritual—several pieces of broken glass and half-burned candles. This activity can be understood in the context of a general ritual interest in prehistoric stones;²² according to 19th century ethnographic data, for example, the population of Aragats and Ghazakh would make pilgrimages to local “spiral stone circles” to pray, believing that they were the “graves of saints”.²³

At Karmir Sar, apart from the single vishaps, the site itself has a long history as a “sacred place” and burial ground. As noted above, its alternative toponyms Kızıl Ziyaret and Tirinkatar are a testimony to this fact. Indeed, a place of pilgrimage for syncretic rites (the *ziyaret* in question) is still in use at the highest point of the site, on top of a red pumice hill, surrounded by memorial pillars and graves (Fig. 8). Here, both Armenians and Yazidis come to say prayers and perform rituals.²⁴ In this sense, the modern *ziyaret* functions in a way as a locus for the negotiation of social boundaries and points of contact. We may go so far as to say that seasonal encounters on common ground, with the ritual and negotiations that ensue, are strongly tied to discourses on legitimate land use and are essential for the lives of people who practice seasonal vertical transhumance.

BIBLIOGRAPHY

ALISHAN, GH.

1881 *Shirak*. Venice: Mekhitarist Congregation (in Armenian).

1890 *Ayrarat*. Venice: Mekhitarist Congregation (in Armenian).

ARESHYAN, G., GHAFADARYAN, K., SIMONYAN, H., TIRATSYAN, G. and KALANTARYAN, A.

1977 “Hnagitakan hetazotutyunner Haykakan SSH Ashtarak ev Nairii shrjannerum [Archaeological investigations in the Ashtarak and Nairi districts of Armenian SSR],” *Traber Hasarakakan Gitutyunneri* [Herald of Social Sciences] 4: 77–93 (in Armenian).

¹⁹ Muradyan 1985. Crosses were also cut on vishaps at Karmir Sar, as well as at Azhdaha Yurt and Diktash (both in the Geghama Mountains). At Sarnnagbyur (Aragats), a vishap was turned into a *khachkar*.

²⁰ Piotrovskiy 1939, p. 13; see also Marr and Smirnov 1931, p. 64.

²¹ Gilibert *et al.* 2012, pp. 106–107.

²² Samuelyan 1927.

²³ Gurko-Kryazhin 1926, p. 220 (also in the context of vishaps).

²⁴ The toponym *Ziyaret* is generally used to indicate a place of pilgrimage: similar mountain shrines exist or existed in other places on Mt Aragats and in the Geghama Mountains (Alishan 1980, p. 331; Marr and Smirnov 1931, with reference to a further Kızıl Ziyaret), as well as in the Vardenis Mountains (Martirosyan 1969, p. 196), in the Shirak region and near Kars (Alishan 1881, pp. 1, 7, 132; Alishan 1890, pp. 15, 70; Atrpet 1931, pp. 310–319), around Erzurum (Atrpet 1929, pp. 54–55), on Mt Ararat (Alishan 1890, pp. 490, 521, “Gizil Ziared”), and on Mt Ararat, or Judi Dagh (Uyanik 1974, p. 83). Interestingly, the toponym Tirinkatar seems in some way to be the cultural equivalent of Kızıl Ziyaret, and to be connected with legends concerning dragons that were supposed to inhabit high mountain peaks: see, for example, the mountain called either Tirinkatar or Kızıl Ziyaret near the ancient town of Vishap, by Mush (Thierry 1976, p. 327; Vardumyan 1991, pp. 109, 112–113). Much along the same lines, the highest peak of the Geghama Mountains is called Azhdahak (“Dragon’s Peak”) in Armenian, and Kızıldag in Turkish (Hakobyan *et al.* 1986, p. 54), while a peak nearby is called Vishapasar (“Mount Dragon”) in Armenian and Ziyaret Kızıl in Turkish (Aslanyan and Grgearyan 1981, pp. 50, 72, 122).

- ASLANYAN, A. A. and GRGEARYAN, H. G.
1981 *Haykakan SSH Ashkharagrakan Anunneri Hamarot Bararan* [Brief dictionary of geographical names of Armenian SSR]. Yerevan: Academy Press (in Armenian).
- ASLANYAN, A. T. and VEHUNI, A. T. (eds)
1970 *Armyanskaya SSR, v kn.: Geologiya SSSR* [Armenian SSR, in: Geology of SSSR], Vol. 43. Moscow: Nedra (in Russian).
- ATRPET
1929 *Chorokhi Avazany* [The Chorokh basin]. Vienna: Mekhitarist Congregation (in Armenian).
1931 “Vishapazants pashtamunky [The cult of the vishaps],” *Bazmavep* 7/8: 308–319 (in Armenian).
- AVETISYAN, P. and BOBOKHYAN, A.
2008 “The pottery traditions of the Armenian Middle to Late Bronze Age ‘transition’ in the context of Bronze and Iron Age periodization,” in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus and Anatolia* (Ancient Near Eastern Studies Supplement 27), edited by K. Rubinson and A. Sagona, pp. 123–183. Leuven: Peeters.
- BADALYAN, R. S. and AVETISYAN, P. S.
2007 *Bronze and Early Iron Age Archaeological Sites in Armenia*. Vol. 1. *Mt. Aragats and its Surrounding Region* (BAR International Series 1697). Oxford: Archaeopress.
- BALYAN, S. P.
1969 *Strukturnaya Geomorphologiya Armyanskogo Nagor’ya i Okaymlyashchikh Oblastey* [Structural geomorphology of the Armenian highland and surrounding regions]. Yerevan: Academy Press (in Russian).
- BARSEGHYAN, L.
1966 “Nor nyuter Hayastani hnaguyn shrjani arvesti patmutyan veraberyal [New materials towards the ancient art history of Armenia],” *Patma-Banasirakan Handes* [Historical-philological journal] 3: 147–160 (in Armenian).
- BISCIONE, R., HMAKYAN, S. and PARMEGANI, N. (eds)
2002 *The North-Eastern Frontier: Urartians and Non-Urartians in the Sevan Lake Basin*. Vol. 1. *The Southern Shores* (Documenta Asiana VII). Rome: Institute for the Study of Aegean and Near Eastern Civilizations.
- BOBOKHYAN, A., GILIBERT, A. and HNILA, P.
2012 “Vishaps of the Geghama Mountains. New discoveries and propedeutics to a history of research,” *Aramazd: Armenian Journal of Near Eastern Studies* 7/2: 7–27.
- BRADLEY, R.
2002 *The Past in Prehistoric Societies*. London: Routledge.
- CONNOR, L. J., CONNOR, C. B., MELIKSETIAN, K. and SAVOV, I.
2012 “Probabilistic approach to modeling lava flow inundation. A lava flow hazard assessment for a nuclear facility in Armenia,” *Journal of Applied Volcanology* 1/3: 1–19.
- EPRIKYAN, H. S.
1902 *Patkerazard Bnashkharhik Bararan* [Illustrated natural dictionary], Vol. 1. Venice: Mekhitarist Congregation (in Armenian).
- FLANNERY, K. and MARCUS, J.
2012 *The Creation of Inequality*. London: Harvard University Press.
- GILIBERT, A., BOBOKHYAN, A. and HNILA, P.
2012 “Dragon stones in context. The discovery of high-altitude burial grounds with sculpted stelae in the Armenian mountains,” *Mitteilungen der Deutschen Orient-Gesellschaft* 144: 93–132.
- GURKO-KRYAZHIN, V. A.
1926 “Tsiklopicheskie sooruzheniya Zakavkaz’ya [Cyclopean constructions of Transcaucasia],” *Noviy Vostok* [New Orient] 15: 212–221 (in Russian).
- HAKOBYAN, T. KH., MELIK-BAKHSHYAN, ST. T. and BARSEGHYAN, H. KH.
1986 *Hayastani ev Harakits Shrjanneri Teghanunneri Bararan* [Toponymical dictionary of Armenia and surrounding regions], Vol 1. Yerevan: University Press (in Armenian).
2001 *Hayastani ev Harakits Shrjanneri Teghanunneri Bararan* [Toponymical dictionary of Armenia and surrounding regions], Vol. 5. Yerevan: University Press (in Armenian).

- KALANTAR, A.
 1925 “Kare dary Hayastanum [The Stone Age in Armenia],” *Nork* 5/6: 207–232 (in Armenian).
 1935 *Aragatsy Patmutyan Mej* [Aragats in History]. Yerevan: State Press (in Armenian).
- KAPANTSYAN, G.
 1945 *Ara Geghetsiki Pashtamunky* [The cult of Ara the Handsome]. Yerevan: Academy Press (in Armenian).
 2008 *Neizdannye Sochineniya* [Unpublished works]. Yerevan: University Press (in Russian).
- KARAKHANYAN, G. H. and SAFYAN, P. G.
 1970 *Syuniki Zhayrapatkernery* [Rock-carvings of Syunik]. Yerevan: Academy Press (in Armenian).
- KARAPETYAN, H.
 1934 *Aragats Lery* [Mount Aragats]. Yerevan: Armfan (in Armenian).
- KHACHATRYAN, T. S.
 1975 *Drevnyaya Kul'tura Shiraka* [Ancient culture of Shirak]. Yerevan: University Press (in Armenian).
- KHANZADYAN, E.
 1969 *Garni*, Vol. 4. Yerevan: Academy Press (in Armenian).
- KHECHOYAN, A.
 2007 “The rock art of the Mt. Aragats system,” in *Rock Art in the Frame of the Cultural Heritage of Humankind, XXII Valcamonica Symposium*, edited by M. Bloom, P. Giorgi and G. Pietroboni, pp. 247–252. Capo di Ponte: Centro Camuno di Studi Preistorici.
- KHUDADOV, V. N.
 1937 “Megaliticheskie pamyatniki Kavkaza [Megalithic monuments of the Caucasus],” *Vestnik Drevney Istorii* [Herald of ancient history] 1: 195–215 (in Russian).
- KOCHARYAN, G. G.
 2005 “Tir/Tiur astvatsutyuny ‘Hayots metsats’ serndasharkum” [The God Tir/Tiur in the genealogy of ‘Great Armenian Ancestors’], *Lraber Hasarakakan Gitutiunneri* [Herald of social sciences] 1: 130–141 (in Armenian).
- LISITSYAN, S.
 1969 *Zangezuri Hayery* [The Armenians of Zangezur]. Yerevan: Academy Press (in Armenian).
- MARR, N. Y. and SMIRNOV, Y. I.
 1931 *Vishapy* [The vishaps]. Leningrad: Academy of History of Material Culture (in Russian).
- MARTIROSYAN, H. A.
 1969 “Hayastani nakhnadaryan mshakuyti nor hushardsanner [New sites of prehistoric culture of Armenia],” *Patma-Banasirakan Handes* [Historical-philological journal] 3: 191–208 (in Armenian).
- MARTIROSYAN, H. A.
 1981 *Geghama Lerneru Zhayrapatkernery* [Rock-carvings of the Geghama Mountains]. Yerevan: Academy Press (in Armenian).
- MURADYAN, P. M.
 1985 “Obrashchennye v khachkary vishapy-stely iz Elegnadsora [Vishap stelae from Eghegnadzor converted into khachkars],” in *Khudozhestvennyye Pamyatniki i Problemy Kul'tury Vostoka* [Artistic monuments and problems of the cultures of the east], edited by V. G. Lukonin, pp. 20–26. Leningrad: State Hermitage.
- MELIKSETYAN, KH. B.
 2012 “Geokhimiya vulkanicheskikh seriy Aragatskoy oblasti [Geochemistry of volcanic series of Aragats province],” *Izvestiya Natsional'noy Akademii Nauk Respubliki Armeniya: Nauki o Zemle* [Herald of the National Academy of Republic of Armenia: Earth sciences] 3: 34–59 (in Russian).
- NARIMANISHVILI, G.
 2009 *Neue Forschungen zur Trialeti-Kultur*. Tbilisi: Mtsignobari (in Georgian with German Summary).
- NAZARYAN, KH.
 1974 “Aragats,” in *Haykakan Sovetakan Hanragitaran* [Soviet Armenian Encyclopaedia], Vol. 1, pp. 677–678. Yerevan (in Armenian).

- PAFFENHOLZ, K. N. and TER-MESROPYAN, G. T.
1964 *Aragats: Geological Description of the Aragats Volcanological Massif*. Yerevan: Academy Press (in Russian).
- PANAINO, A.
1995 *The Iranian Myth of the Star Sirius* (Tyštrya, Pt. 2). Rome: Istituto Italiano per il Medio ed Estremo Oriente.
- PAGIREV, D. D.
1913 *Alfavitniy Ukazatel' k Pyativerstnoy Karte Kavkazskogo Kraya* [Alphabetical guide to the five-verst map of the Caucasian region]. Tbilisi: K. P. Kozlovsky Publisher (in Russian).
- PETROSYAN, L. and MURADYAN, F.
2012 "Excavations of the cemetery of Aghavnatun. Preliminary results," in *Archaeology of Armenia in Regional Context*, edited by P. Avetisyan and A. Bobokhyan, pp. 126–132. Yerevan: Academy Press.
- PIOTROVSKIY, B. B.
1939 *Vishapy* [The vishaps]. Leningrad: Armfan (in Russian).
2009 *Stranitsy Moey Zhizni* [Pages of my life]. Moscow: Nauka (in Russian).
- SAGONA, A.
2004 "Social boundaries and ritual landscapes in late prehistoric Trans-Caucasus and highland Anatolia," in *A View from the Highlands: Archaeological Studies in Honour of Charles Burney* (Ancient Near Eastern Studies Supplement 12), edited by A. Sagona, pp. 475–538. Leuven: Peeters.
- SAMUELYAN, KH.
1927 "Kari pashtamunky hayeri mej [The stone cult by the Armenians]," *Handes Amsorea* [Monthly journal] 8–9: 435–442, 521–525 (in Armenian).
- SIEBERT, L., SIMKIN, T. and KIMBERLY, P.
2010 *Volcanoes of the World*. Berkeley: University of California Press.
- SMITH, A. T., BADALYAN, R. S. and AVETISYAN, P.
2009 *The Archaeology and Geography of Ancient Transcaucasian Societies*. Vol. 1. *The Foundations of Research and Regional Survey in the Tsaghkahovit Plain, Armenia* (Oriental Institute Publications 134). Chicago: Oriental Institute of the University of Chicago.
- THIERRY, J. M.
1976 "Le couvent des Saints-Apotres de Muš," *Handes Amsorea* [Monthly journal] 90: 235–256 (in French).
- TURNER-WALKER, G.
2008 "The chemical and microbial degradation of bones and teeth," in *Advances in Human Palaeopathology*, edited by R. Pinhasi and S. Mays, pp. 3–29. London: Wiley-Blackwell.
- UYANIK, M.
1974 *Petroglyphs of South-Eastern Anatolia*. Graz: Akademische Druck- u. Verlagsanstalt.
- VARDUMYAN, G. D.
1991 *Dokhristianskie Kul'ty Armyan* [Pre-Christian cults of the Armenians]. Yerevan: Academy Press (in Russian).

Arsen BOBOKHYAN
Institute of Archaeology and Ethnography, Armenia
Email: arsenbobokhyan@yahoo.com

Alessandra GILIBERT
Freie Universität Berlin, Germany
Email: gilibert@zedat.fu-berlin.de

Pavol HNILA
Freie Universität Berlin, Germany
Email: pavol.hnila@fu-berlin.de