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Chapter I

The Transition between the Neolithic and Chalcolithic Period in the Southern Caucasus: A Macrolithic Perspective from the Tsiteli Gorebi Cluster (Georgia)

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Abstract

This study delves into the poorly understood Chalcolithic period of the Southern Caucasus, focusing on its early phase (first half of the 5th millennium BCE). While a few preliminary excavation reports about sites of this phase, contributions addressing specific aspects of its material culture are still lacking. The research concentrates on groundstone tools, aiming to trace their progression from the Neolithic to the Chalcolithic period and to highlight variations in raw materials, functionality, and morphology. The work builds on previous analyses conducted by different scholars, in particular on recent studies by C. Hamon. Emphasizing the significance of groundstone tools, it explores their potential to provide insights into changes in the activities and economic preferences of the different communities. The analysis focuses on finds from Tsiteli Gorebi, a cluster of Chalcolithic sites in Eastern Georgia, dated to the first centuries of the 5th millennium BCE. This assemblage of groundstone tools contributes valuable information for understanding the earliest Chalcolithic communities and their connections with the preceding Shulaveri-Shomu tradition. The research reveals continuity and changes in the macrolithic assemblages at the transition between the Neolithic and the Chalcolithic period, shedding light on the evolution of activities and the use of tools during this critical period in the region's history.

Introduction

Placed between the Neolithic Shulaveri-Shomu culture and the Early Bronze Kura Araxes culture, the Chalcolithic period of the Southern Caucasus is still poorly understood, especially in its earliest phase, which roughly corresponds to the first half of the 5th millennium BCE. There are, indeed, some preliminary excavation reports containing new relevant data from sites like Nachichevan Tepe in Nachichevan, Uçan Ağıl in Azerbaijan, Bavra Ablari in Georgia, and Getahovit-2 in north-western Armenia (Varoutsikos *et al.* 2017; Bakhshaliev 2019; Kalantarian *et al.* 2019), but contributions addressing specific aspects of the material culture of this period are still missing.

This study concentrates on the regional assemblage of groundstone tools, an often-neglected class of finds. The objective is to chart their progression from the Neolithic to the Chalcolithic period, emphasizing distinctions and similarities in the use of raw materials, as well as in functional and morphological aspects. These variations may provide insights

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into shifts in the activities and economic preferences of different communities during these two periods.

The potential of this tool category remained largely unexplored until recently, besides the initial systematic analyses of macrolithic tools conducted in the Near East by M.C. Nierle and K. Wright (Nierle 1982; Wright 1992) and functional studies by scholars such as Dubreuil (2004) and Adams (Adams *et al.* 2009).

Regarding more specifically the Southern Caucasus, the work of C. Hamon about the Neolithic Shulaveri Shomu group in the region of Kvemo-Kartli (Georgia) and some other neolithic sites in Armenia and Azerbaijan is fundamental (Hamon 2008). For the Chalcolithic period of the same region, however, only a few preliminary and fragmentary data are currently available (Hamon 2020).

Groundstone tools found at Tsiteli Gorebi, a cluster of sites dated to the first centuries of the 5th millennium BCE located in Eastern Georgia (Fig. 2), can provide useful information for defining the activities and economic choices of the most ancient Chalcolithic communities and highlighting similarities and differences with the previous Shulaveri-Shomu tradition.

The materials from Tsiteli Gorebi 5 (henceforward: TSG 5) have been the subject of a previous study by the present author, the details of which can be found in a separate publication (Babolin 2022). This paper focuses, instead, on the tools recovered during the old Georgian excavations.

Cultural Horizons in the Transition from Neolithic to Chalcolithic Period

The Ceramic Neolithic period in the Southern Caucasus, c. 6000-5200 BCE (Nishiaki *et al.* 2015), exhibits three main cultural traditions with distinct spatial distribution, architectural styles, and artifact assemblages². The Shulaveri-Shomu culture, centred around sites like Shulaveris Gora and Shomutepe, spans Eastern Georgia and part of Azerbaijan. Another cluster, represented by sites like Aratashen and Aknashen-Khatunarkh (Badalyan *et al.* 2010; Badalyan *et al.* 2007), is found in the Ararat valley of Armenia. A third cultural horizon, identified in the Mil steppe of Azerbaijan and Nakhichevan, shows notable connections with Iranian territories (Marro *et al.* 2019).

Neolithic sites, mostly situated in river plains, have an average size of 1-1.5ha, with Khramis Didi Gora being the largest, at 4.5ha. Villages consist of round or oval compounds, featuring plano-convex mudbrick structures and a central courtyard (Sagona 2018: 96). Burials are mostly individual and consist of inhumation under floors or between walls (Poulmarc'h 2015).

Ceramic production is categorised into coarse plain and painted wares, both handmade with coil or slab techniques. Vessels exhibit diverse fabric, colour, and surface effects, with common shapes being holemouth jars and wide-mouth cooking pots. Plastic decoration includes clay pellets, circles, ovals, and relief ornaments.

As for the Chalcolithic period, a subdivision into ancient (5000/4800 to 4300 BCE) and late phases (4300 to 3500 BCE) is generally accepted (Kiguradze 2000: 231; Lyonnet 2007: 12), though a tripartite division might also be proposed. Settlement patterns are varied, rang-

2 Sagona 2018: 93. Two other cultures, previously attributed to the Early Neolithic period, have been attributed by recent studies to the 6th millennium BC: that of Chokh in the Northern Caucasus (Dagestan) and that of Anaseuli-1 in Western Georgia.

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ing from permanent villages to seasonal camps, reflecting a flexible lifestyle. The South Caucasian Chalcolithic includes two main cultural groups with distinct ceramic traditions: mineral-tempered and vegetal-tempered ceramics. The latter, with abundant organic inclusions, exhibits varied shapes and connections with Northern Mesopotamia and Syria. The former, characterised by large mineral inclusions, is a local phenomenon of the Southern Caucasus, with the Tsiteli Gorebi cluster of sites being part of this tradition. Both traditions flourish in the second half of the 5th millennium BCE³.

Vegetal-tempered pottery prevails in the Late Chalcolithic, displaying longer occupations with rectangular mud-brick buildings. Notable sites include Leilantepe, Boyuk Kesik, and Berikldeebi, whose pottery shows strong similarities to Upper Mesopotamian wares. Mineral-tempered pottery declines by the first half of the 4th millennium. Information about the earliest Chalcolithic phase (first half of the 5th millennium BCE) was limited until recently and primarily consisted of ovens, pits, clay containers, and hearths with unclear ceramic associations.

The Tsiteli Gorebi Cluster of Early Chalcolithic Sites in the Kakheti Region

The Tsiteli Gorebi sites, located in the southern part of Lagodekhi Municipality at the eastern limit of Georgia, collectively known as ‘Tsiteli Gorebi’ (Georgian: წითელი გორები “the red hills”), were discovered by the Kakheti Archaeological Expedition in the late 1970s to 1980s. Two of these sites, Kviriatskhali (Tsiteli Gorebi 3) (Varazashvili 1980; 1992) and Damtsvari Gora (Varazashvili 1984; 1992), underwent excavation, while others are only cursorily mentioned in the excavation reports (Rova *et al.* in press).

The excavated sites, characterised by small mounds representing short periods of occupation, revealed cultural levels no more than 1 meter high. Although lacking well-preserved architectural contexts, evidence included storage pits, circular or slightly curved features, and a few burials. The cluster yielded a seemingly homogeneous array of finds, including mineral-tempered pottery, macro- and microlithics, bone awls, and some metal tools (Fig. 2). Despite partial publication of findings, a significant portion of them remained unpublished.

A new site in the same cluster, Tsiteli Gorebi 5, excavated from 2018 to 2021 by the GILAP project of Ca’ Foscari University of Venice, in collaboration with the Lagodekhi Regional Department of the Ministry of Culture, Sport, and Youth, is dated to 5000–4800 cal BCE⁴. Modern disruptions hampered contextual analysis, but some architectural remains were found, suggesting contemporaneity with other sites in the cluster. (Rova and Kvavadze 2023; Rova *et al.* in press).

Macrolithic Tools from the TSG sites (Damtsvari Gora, Tsiteli Gorebi 3 and Surroundings)

A small collection of 28 macrolithic tools was uncovered, including five adzes displayed in the Signagi Museum and the rest found in the reserve collections of the Gurjaani Museum after extensive research. In 2022, analyses and documentation, including drawings, photos, and microscopic examinations, were conducted on these tools. While the origin of some

3 The distribution and chronological relations between these two ceramic traditions are complex and still debated (Lyonnet *et al.* 2016; Sagona 2013, 2018).

4 See Rova *et al.* in press. All radiometric determinations have been carried out by Elisabetta Boaretto of the Weizmann Institute of Science (Rehovot, Israel).

tools is known from museum catalogue entries, others, discovered by Varazashvili at the Tsiteli Gorebi sites, remain unidentified.

The tools were classified based on their function, following the methods employed by C. Hamon in the analysis of South Caucasian materials, as well as drawing inspiration from the earliest study of Levantine assemblages conducted by K. Wright. Subsequently, parallels for them were drawn with published macrolithic finds from Neolithic and Chalcolithic sites across the Southern Caucasus. This comparative approach aimed to define the position of the Tsiteli Gorebi assemblage within the transition between these two cultural stages (Babolin 2022).

Querns and handstones

The assemblage includes two examples of querns, both preserved in a fragmentary state. The first measures 4.3 x 11.2 x 10.2cm, exhibiting an ovoid plan and a flat-convex section (NN-M-7; Fig. 3b). It is crafted from a block of magmatic stone (basalt) displaying a dark grey colour and a porous texture. The second quern measures 4.8 x 17.5 x 13cm, has a saddle-shaped form with a preserved ridge (NN-M-8; Fig. 3a). It is made from a block of limestone of light grey colour and with a fine texture. In the case of NN-M-7, only one working surface was identified, appearing to deepen in the middle due to the wear of the grinding tool. The bottom of the depression seems relatively flat, suggesting a consistent force applied to the instrument. The fragmentary nature of NN-M-7 makes it impossible to determine whether the quern was open or closed.

Technological traces, evidenced by pecking, are visible on the ventral surface of both querns. The use surface exhibits multi-directional, U-shaped striae (Fig. 1a), while no polishing is observed on either specimen. While querns are traditionally associated with cereal processing, other possibilities, such as the processing of different types of food, non-edible substances, or medicinal plants, cannot be ruled out. The first quern corresponds to Wright's type 9 (Wright 1992: 63), described as 'through design' querns, while the second corresponds to Wright's type 5 (Wright 1992: 63). No comparable quern types were found at the TSG5 site.

Only one example of a handstone, possibly to be associated with the querns, was discovered (NN-M-6; Fig. 1c; Fig. 3c). It measures 5.6 x 7.1 x 5.3cm and is crafted from a cobble of magmatic rock (basalt), displaying a dark grey colour and a medium texture. It is spheroid in shape (ovoid in plan and section). The surface is marked by striae, indicating grinding against a lower tool. Two working surfaces are more levelled and flatter than the other ones. To judge from use-wear traces, it was utilised in a circular movement, corresponding to Wright's category n. 24 (Wright 1992: 66). This type of handstone is also documented at TSG5 (Babolin 2022: 21).

Hammers and crushing tools

The significant majority of the macrolithic tools belonging to this group appears to have been employed in handicraft production. Pronounced detachments on one or more surfaces suggest their use in processing hard materials, such as stone tools or minerals, indicating a diverse range of applications for these tools. It is interesting to observe, in this respect, that at Kviriatskhali there is evidence of object and processing slags (Varazashvili 1990:

47), Unlike crushing cobbles, certain hammers exhibit traces of striae or polishing on their working surfaces, indicating a secondary use as grinders.

Only one example of a pounder was identified (06-52-696; Fig. 1b; Fig. 4a). It exhibits a cuboid shape (6.7 x 7.3 x 5.2cm), designed for one-handed use, and features four working sides. It is made of basalt, characterised by a dark grey colour and fine texture. The sides and back surface of the tool suggest some degree of preform shaping. Evidence of hammering is present, which is indicative of the dual use of this tool: initially as a pounder involved in craft activities (as evidenced by small detachments on one side), secondly, as a grinder, as evident from the flat and levelled sides. Pounders, particularly in the cuboid form, represent the predominant group within the Tsiteli Gorebi 5 macrolithic corpus, (Babolin 2022: 22). The rarity of pounders found in the old excavations could be attributed to a selective collection by the Georgian excavators.

The assemblage contains also a smaller crusher made from magmatic stone, characterised by high porosity and a dark grey colour (06-572-32; Fig. 1d; Fig. 4b). It has a quadrangular plan and plano-convex section, with fragmentation on one side. A small central cavity (diameter 4.3cm) indicates the collection and crushing of substances. The lower side (non-working surface) is levelled and polished as a result of technological activities and shaping, while the upper side (working surface) is pecked and ground in different directions of movement.

Within the realm of crushing tools, one example of a small chisel made from a basalt cobble (06-107- 719; Fig. 1e; Fig. 4c) was also identified. It is ovoid in section and quadrangular in plan, displaying technological traces in the form of polishing and levelling on all sides. The butt (upper edge) is characterised by fractures, while the bit (lower edge) remains sharp, facilitating the crushing of hard materials.

Adzes

A significant number of adzes (21) were collected by the Georgian expedition at the Tsiteli Gorebi sites, indicating a wide range of functions. They could serve for a variety of practical tasks such as cutting wood and hammering, but were also capable of more drastic uses, like hunting or even self-defence. Two categories of adzes are identified.

The first category comprises elongated adzes without grooves (Fig. 1h-i-j; Fig. 5). The primary material used is igneous rock of grey/dark grey colour (basalt). The majority (eight pieces) have a trapezoidal shape in plan and an oval section, while oval-shaped adzes in both plan and section (four pieces) or quadrangular adzes (two pieces) have also been found. These adzes exhibit technological features such as pecking on the butt and polishing on 2/3 or 1/3 of the instrument's bit. The bit has an asymmetrical section, with one face flatter than the other. The handle attachment, likely parallel to the instrument's direction of use, would have occurred on the flatter side. Two specimens of this type have also been discovered at TSG5 (Babolin 2022: 24). In this case as well, the quantitative difference in the number of adzes between the sites is likely due to a selective collection of the pieces.

The second category consists of grooved adzes (seven pieces), trapezoidal in plan, with a central groove (Fig. 1f-g; Fig. 6). The raw material used is sedimentary rock, light grey in colour (limestone). There are no signs of polishing on them. One side is characterised by large detachments to facilitate gripping or hafting. The butt is smaller than the bit. Similar

to adzes without grooves, the hafting is parallel to the direction of use, and the bit is not symmetrical in section.

Currently, there are no parallels for adzes of this type at either Chalcolithic or Neolithic sites in the Southern Caucasus. Their coexistence with other adze types suggests that they were intended for a different purpose, further supported by the use of distinct raw materials.

The Early Chalcolithic Groundstone Tool Assemblage

Upon detailed analysis and comparison (Table 1) some differences can be observed between the macrolithic tool assemblages from TSG 5 and from the other sites of the cluster investigated by Varazashvili. Specifically, abraders and polishers were found exclusively at TSG5 (Babolin 2022: 23), whereas querns were only identified at other sites of the cluster. As observed above, discrepancies in the abundance of adzes versus other types of tools may imply a potential bias in not recognizing/collecting other macrolithic tool types by earlier excavators. In spite of this, the macrolithics from the Tsiteli Gorebi sites collectively represent a coherent assemblage, which displays uniform characteristics across different sites.

The supply of raw materials was generally organised around the exploitation of the alluvial deposits of the local riverbeds. Magmatic rocks, particularly basalt or diorite, and sedimentary rocks, especially sandstone, were mostly selected. In general, the data suggest a division, in the choice of raw material, between large-sized and medium-sized tools (Babolin 2022: 24-25).

The macrolithic assemblage of the Early Chalcolithic Tsiteli Gorebi sites shows considerable aspects of continuity with that of the later phases of the Shulaveri-Shomu sites (for instance of the latest levels from Goytepe, Akhashen, Khaturmarch and Khramis Didi Gora)⁵. First of all, the range of tools from these sites is rather limited if compared with other Neolithic sites (such as Imiris Gora or Arukhlo) yet reveals a very complete toolkit, bearing evidence of intensive daily food preparation and diversified craft activities associated with domestic settlements (Hamon 2008); secondly, it shows a clear decline in food production tools accompanied by an increase of tools for handcraft activities, especially hammers and crushing tools for metalworking (Babolin 2022). Indeed, the decrease in grinding tools marks a deep change from the Shulaveri-Shomu tradition, in which querns and grinders represented the most common class, as in the case of Arukhlo I or Imiris Gora (Hamon 2008: 17).

Although available data do not allow for precise comparisons, this aspect is also characteristic of other Chalcolithic sites, in particular of those attributed to the so-called ‘Sioni tradition’, such as Sioni or the sites of the Aragvi valley (Chinti, Abasnorevi, Zinvali)⁶. It also finds parallels with the tradition of the contemporary settlements in the North-Caucasian steppes (Hamon 2007).

Saddle-shaped quern found, although in limited numbers, at the Tsiteli Gorebi sites and also at Sioni represent clear reminders of the Shulaveri-Shomu tradition, where this kind of querns were best-attested. Another element of continuity with the previous Neolithic

5 The latest levels of Khramis Didi Gora (levels IV-I) and Akhashen Khaturmarch (level I) date back to the end of the Neolithic/Ancient Chalcolithic period (Hamon 2008: 91; Badalyan *et al.* 2010: 198).

6 The assemblage from these sites is still unpublished, except for a preliminary study conducted by C. Hamon (Hamon 2020). Only one radiocarbon dating has been carried out for these contemporaneous sites, specifically at the Zinvali site (5237-4636 cal. BC) (Mirtshulava, Chikovani 2014).

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tradition is the presence of abraders and polishers at TSG5 (Babolin 2022: 23-24), since no specimens of these tools were found, until now, at any of the Chalcolithic sites.

On the contrary, elements that differentiate the Early Chalcolithic from the Neolithic repertoire are: the standard cuboid shape of the hammers in contrast with the different shapes typical for the Neolithic period, and the larger number of crushing tools.

On a more general level, the Tsiteli Gorebi assemblage significantly correlates with the chronological position that, based on pottery and other finds as well as on ¹⁴C dates from Tsiteli Gorebi 5, we attribute to these sites, at the beginning of the Chalcolithic period. Indeed, it well corresponds with the proposed development trend in macrolithic production from the Neolithic to the Chalcolithic in the Southern Caucasus (Babolin 2022).

This development is connected with the deep change, which occurred between the two periods, of the needs and life styles of the population. In the former period, subsistence economy was mainly based on cereal farming. This is confirmed by the intensive production of grinders and querns, which not only represent the dominant category within the Neolithic macrolithic equipment, but also show considerable attention in their manufacture, e.g. in processing the preform, or in designing the tool. This reflects very well the nature of Neolithic settlements, many of which are multilayer sites permanently occupied over a long period, which exhibit a thick and complex stratigraphic sequence.

The situation is quite different, in all respects, for the Chalcolithic period; in particular for its earlier phases and for the territory of present-day Georgia. In fact, the Chalcolithic repertoire of tools reveals an evident shift not only in the very same practice of cereal processing (when attested), but especially in the other activities practiced within the settlements. On the other hand, the characteristics of this assemblage also differ, in some respects, from those of the assemblages of the more advanced Chalcolithic phases (end of the 5th-first half of the 4th millennium BCE) like Leilatepe, Boyuk Kesik, Poylu in Azerbaijan or Beriekldebi in Georgia, where grinding processing tools apparently become more common again (Akhundov *et al.* 2007: 67).

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References

- Adams, J. Delgado-Raack and S. Dubreuil, L. 2009. Functional Analysis of Macro-Lithic Artefacts. In: L. Oosterbeek (ed.), *Proceedings of the XV World Congress / actes du XV congrès Mondial*, Lisbon, 43-66.
- Akhundov, T. 2007. Sites de migrants venus du Proche-Orient en Transcaucasie. In: B. Lyonnet (ed.), *Les cultures du Caucase (VII-III^e millénaires av. notre ère)*, Paris, 95-121.
- Babolin, G. 2022. Trends in development of groundstone tools from the Neolithic to the Chalcolithic period in the Southern Caucasus: new results from Tsiteli Gorebi (Georgia). *Rivista di Archeologia* 46, 3-34.

- Badalyan, R., Lombard, P., Avetisyan, P., Chataigner, C., Chabot, J., Vila, E., Hovsepyan, R., Willcox, G. and Pessin, H. 2007. New Data on the Late Prehistory of the Southern Caucasus. The Excavations at Aratashen (Armenia): Preliminary Report. In: B. Lyonnet, (ed.), *Les cultures du Caucase (VII-VIII^e millénaires av. notre ère)*, Paris, 37-61.
- Badalyan, R., Harutyunyan, A., Chataigner, C., Le Mort, F., Chabot, J., Brochier, J., Balasescu, A., Radu, V. and Hovsepyan, R. 2010. The Settlement of Aknashen Khatunarkh, a Neolithic Site in the Ararat Plain (Armenia): Excavation Results 2004- 2009, *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13, 185-218.
- Bakhshaliyev, V. 2019. Archaeological Research of the Settlement of Nakhchivan Tepe. In: C. Marro and T. Stöllner (eds.), *On Salt, Copper and Gold. The Origins of Early Mining and Metallurgy in the Caucasus*, Paris, 375-386.
- Dubreuil, L. 2004. Long-term Trends in Natufian Subsistence: A Use-wear Analysis of Ground Stone Tools. *Journal of Archaeological Science* 31, 1613-1629.
- Hamon, C. 2007. Modes de subsistence et activités dans le Chalcolithique du Caucase nord: étude fonctionnelle des outils en pierre de la culture de Majkop. In: B. Lyonnet (ed.), *Les cultures du Caucase (VIe-VIII^e siècle avant notre ère). Leurs relations avec le Proche Orient*, Paris, 189-198.
- Hamon, C. 2008. From Neolithic to Chalcolithic in the Southern Caucasus: Economy and Macrolithic Implements from Shulaveri-Shomu Sites of Kwemo-Kartli (Georgia). *Paléorient* 34-2, 85-135.
- Hamon, C. 2020. Economy and Status of Neolithic to Early Bronze Age Sites in the Southern Caucasus during the 6th-3rd mill. BCE: The Evidence from Ground Stone Tools. *Journal of Lithic Studies* 7-3, 1-18.
- Kalantarian, I. and Ghanem, G. 2019. Preliminary Results of the Getahovit-2 Cave Excavations in 2018, ARAMAZD. *Armenian Journal of Near Eastern Studies* 13-1, 1-33.
- Kiguradze, T. 2000. The Chalcolithic-Early Bronze Age Transition in the Eastern Caucasus. In: C. Marro and H. Hauptmann (eds.), *Chronologies des pays du Caucase et de l'Euphrate aux VII^e-VIII^e millénaires: Actes du colloque d'Istanbul, 16-19 décembre 1998*, Paris, 321-328.
- Kiguradze, T. and Sagona, A. 2003. On the Origins of the Kura-Araxes Cultural Complex. In: A.T. Smith and K. Robinson (eds.), *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*, Los Angeles, 38-94.
- Lyonnet, B. 2007. Introduction. In: B. Lyonnet (ed.), *Les Cultures du Caucase (VIe-VIII^e millénaires avant notre ère). Leurs relations avec le Proche-Orient*, Paris, 10-19.
- Lyonnet, B., Guliyev, F., Bouquet, L., Bruley-Chabot, G., Samzun, A., Pecqueur, L., Jovenet, E., Baudouin, E., Fontugne, M., Raymond, P., Degorre, E., Astruc, L., Guilbeau, D., Le Dosseur, G., Benecke, N., Hamon, C., Poulmarc'h, M. and Courcier, A. 2016. Mentesh Tepe, an early settlement of the Shomu-Shulaveri culture in Azerbaijan. *Quaternary International* 395, 170-180.
- Marro, C., Bakhshaliyev, V., Berthon, R. and Thomalsky, J. 2019. New light on the Late Prehistory of the South Caucasus: Data from the recent excavation campaigns at Kültepe I in Nakhchivan, Azerbaijan (2012-2018). *Paléorient* 45-1, 81-113.
- Mirtshulava, G. and Chikovani, G. 2014. Phase of Transition to the Kura-Araxes Culture. In: G. Narimanishvili (ed.), *Problems of Early Metal Age Archaeology of Caucasus and Anatolia*, Tbilisi, 32-41.

- Nierlé, M.C. 1982. Mureybet et Cheik-Hassan (Syrie): outillage de mouture et de broyage (IX-Xe millénaire), *Cahiers de l'Euphrate* 3, 177- 216.
- Nishiaki, Y. Guliyev, F. Kadowaki, S. 2015. Chronological Contexts of the Earliest Pottery Neolithic in the South Caucasus: Radiocarbon Dates for Goytepe and Haci Elamxanlı Tepe, Azerbaijan. *American Journal of Archaeology* 119-3, 279-294.
- Poulmarc'h, M. and Le Mort, F. 2015. Diversification of the Funerary Practices in the Southern Caucasus from the Neolithic to the Chalcolithic. *Quaternary International* 395, 184-193.
- Rova, E. and Kvavadze, D. 2023. Two Seasons of Excavations at the Chalcolithic site of Tsiteli Gorebi 5 (Lagodekhi Municipality, Georgia). In: N. Marchetti, F. Cavaliere, E. Cirelli, C. D'Orazio, G. Giacosa, M. Guidetti and E. Mariani (eds.), *Proceedings of the 12th International Congress on the Archaeology of the Ancient Near East, 06-09 April 2021, Bologna* (Vol. 2), Wiesbaden, 559-571.
- Rova, E., Kvavadze, D., Amato, F., Boaretto, E., Boschian, G., Siracusano, G. and Tonetto, L. in press. Tsiteli Gorebi 5, a New Early Chalcolithic Site in Eastern Georgia. Results of the 2018-2019 Excavations by the "Georgian-Italian Lagodekhi Archaeological Project". *Archäologische Mitteilungen aus Iran und Turan* 50.
- Sagona, A. 2018. *The Archaeology of the Caucasus. From the Earliest Settlements to the Iron Age*, Cambridge.
- Varazashvili, V. 1980. *ძვ. წს. 4 ათასწლეულის შუაგანგის მასაღი ტორ-ალაზანის აუზიდან (4th Millennium BC Materials from the Tori-Alazani Basin), Works of the Kakheti Archaeological Expedition IV*, Tbilisi, 18-35.
- Varazashvili, V. 1984. *ნამოსახლარი "დამსტვარი გორა". 1980 წლის სველე მუშაობის შედეგები (Settlement of "Damsvari Gora". Result of the Excavations carried out in 1980)*, Works of the Kakheti Archaeological Expeditions VI, Tbilisi, 19-26.
- Varazashvili, V. 1992. *რანნეზემლედილ'ჩესკაია კულ'ტურაჯურო-ალაზანსკოგო ბასეინა (The Early Farming Culture of the Tori-Alazani Basin)*, Tbilisi.
- Varoutsikos, B., Chahoud J. and Martin, L. 2017. From the Mesolithic to the Chalcolithic in the South Caucasus: New Data from the Bavra Ablari Rock Shelter. In: A. Batmaz, G. Bédianashvili., A. Michalewicz. and A. Robinson (eds.), *Context and Connection: Essays on the Archaeology of the Ancient Near East in Honour of Antonio Sagona* (Orientalia Lovaniensia Analecta 286), Leuven, 233-256.
- Wright, K. 1992. A Classification System for Ground Stone Tools from the Prehistoric Levant, *Paléorient* 18-2, 53-81.



Figure 1. (a) use-wear traces (striae) on the surface of quern NN-m-8; (b) pounder; (c) handstone; (d) crusher; (e) chisel; (f-g) grooved adzes; (h-i-j) adzes; (k) scans of adzes with structured light scanner

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Figure 2. Location of the Tsiteli Gorebi sites in the Lagodekhi region

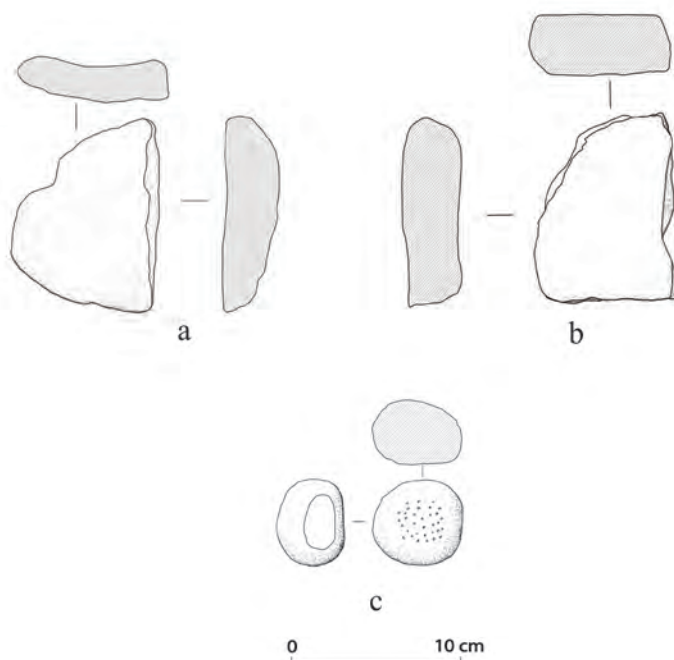


Figure 3. (a) saddle-shaped quern NN-m-8; (b) ovoid quern NN-m-7; (c) handstone NN-m-6

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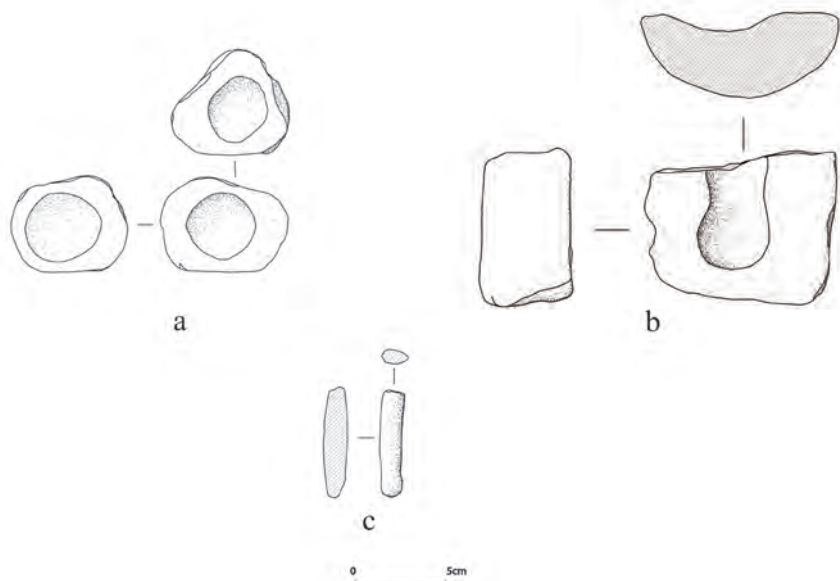


Figure 4. (a) pounder 06-52-696; (b) crusher 06-572.32; (c) chisel 06-107-719

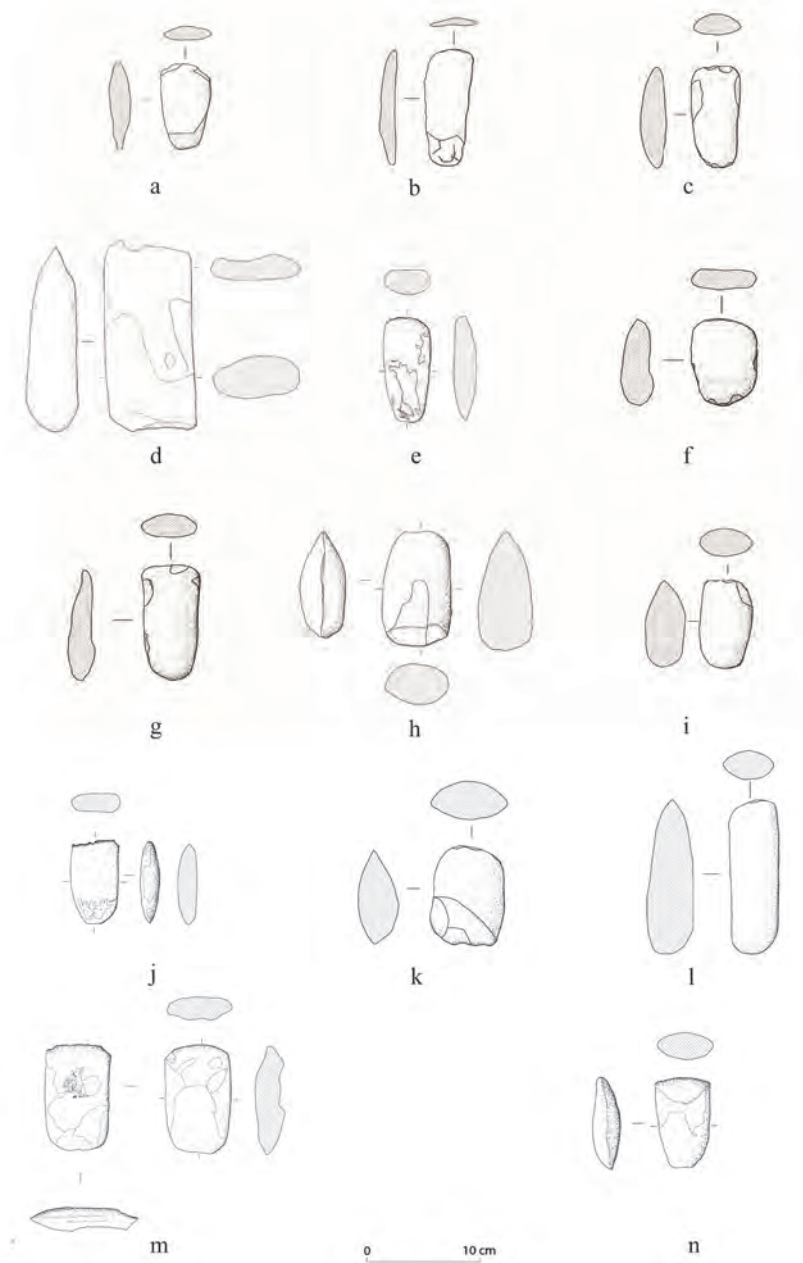


Figure 5. Adzes without grooves from Tsiteli Gorebi sites: (a) 89; (b) 06-52-372; (c) 06-51-602 (Damtsvari Gora); (d) 06-52-698 (Damtsvari Gora); (e) 06-57-75-76 (Tsiteli Gorebi 3); (f) 06-52-701 (Damtsvari Gora); (g) 06-51-900 (Tsiteli Gorebi 3); (h) 08-995-90; (i) 06-31-838 (Tsiteli Gorebi 3); (j) 82 (Damtsvari Gora); (k) 69 (Ziari); (l) 06-51-897 (Tsiteli Gorebi 3); (m) 6624 (Damtsvari Gora); (n) 6638 (Tsiteli Gorebi 3)

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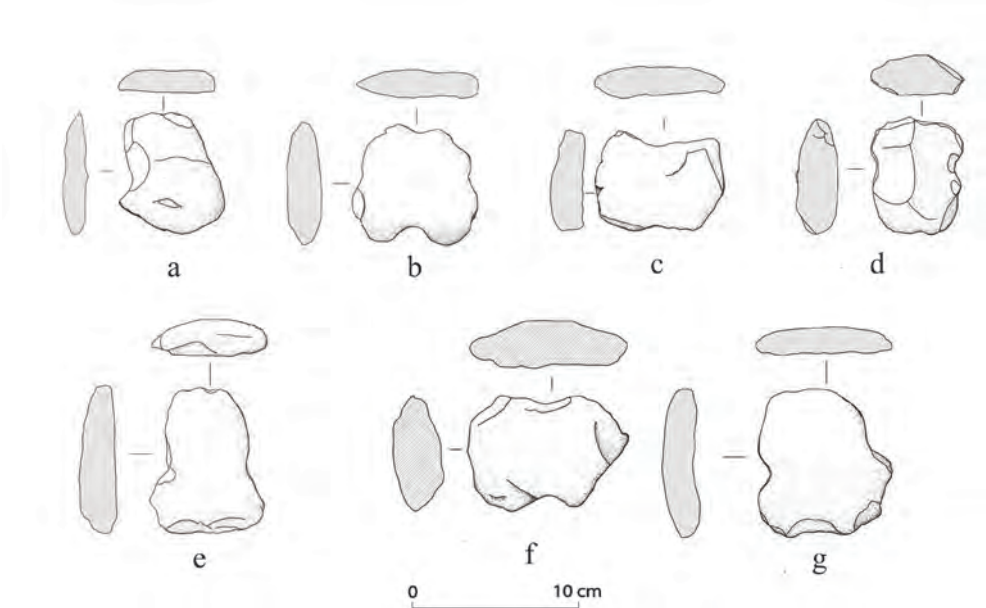


Figure 6. Adzes with grooves from Tsiteli Gorebi sites: (a) 6638 (Tsiteli Gorebi 3); (b) NN-m-1; (c) NN-m-2; (d) 06/572,30; (e) NN-m-5; (f) NN-m-3; (g) NN-m-4

CLASS	TPOLOGY	Old excavations	TSG5
Grinding	Quern	2	
	Handstone	1	3
Pecking	Mortar		2
	Pestle		1
Hammering	Hammer	1	9
	Crushing cobble		2
	Crusher	1	
	Working slab		3
Polishing and abrading	Abrader		3
	Polisher		1
Cutting	Adzes	21	2
	Chisel	1	
Containing	Vessel	1	1

Table I. Quantitative comparison of the macrolithic tool types from the different Tsiteli Gorebi sites