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PREHISTORIC SETTLEMENT IN "DOLAPKULAK" LOCATION NEAR DRAGANOVO VILLAGE, DOBRICH DISTRICT, BULGARIA

*This paper is dedicated to my late colleague **Alexander Georgiev Bonev**. We excavated together in Durankulak and Draganovo. He taught me how to "see" in archaeological work.*

Abstract: Aşezarea preistorică de lângă satul Draganovo, Dobrici, face referire la categoria aşezărilor fortificate situate pe „înălțimi", ce au apărut la jumătatea şi în cea de a doua jumătate a neoliticului şi bronz în unele zone din Peninsula Balcanică şi care au fost locuite cu intensitate diferită până la sfârşitul eneoliticului, iar unele zone şi într-o perioadă mai târzie. Obiectivul a fost descoperit şi studiat prin sondaj în anul 1975 pe o suprafață mai extinsă în anul 1993. Până acum rezultatele care s-au obținut în urma săpăturilor au fost publicate în termeni destul de generali şi în diferite contexte în cadrul unor monografii şi anunțuri, comunicări prealabile. Din această cauză în cadrul acestei comunicări autorul are ambiția să prezinte, pe cât este posibil, informația topografică şi arheologică cât mai completă din aşezarea Drăganovo-Durankulak, în speranța că această informație se va extinde prin informații noi din viitoare cercetări. În cazul de față, are importanță şi faptul că obiectivul este situat pe malul stâng al unuia dintre brațele canionului Suha Reka. De pe teritoriul Bulgariei şi din teritoriile învecinate se cunsoc mai mult de zece asemenea descoperiri arheologice care au o caracteristică arheologică înrudită, în ciuda unor diferențe care există în stratigrafia şi cronologia lor. Dar localizarea şi topografia lor, ca regulă de bază, demonstrează o locuire a platourilor situate la înălțime, ce domină zona înconjurătoare, zona locuită fiind înconjurată de versanți abrupți, ce ofereau o apărare naturală a locuitorilor săi. Şi aşezarea de la „Durankulak" este o aşezare fortificată, situată pe un platou înalt, care se află la 5 km. sud de satul Draganovo, județul Dobrici. Săpăturile care s-au efectuat în anii 1975 şi 1993, ne-au oferit informația arheologică de teren, care a fost expusă amănunțit în articolul de față. În cadrul acestei aşezări s-au descoperit cantități impresionante de ceramică, plastică antropomorfă şi zoomorfă, sculpturi din cremene şi din os. Din punct de vedere stratigrafic şi tipologic s-a stabilit că această aşezare a avut două perioade de locuire: 1. Din epoca bronzului târziu şi epoca fierului timpuriu, avem un strat de locuire cu o grosime de 30 de cm. Aici s-au delimitat două nivele de locuire – culturile Cologeni Sabatinovka, Sihleanu-Prababadag şi Babadag I.; 2. Mijlocul şu cea de a doua jumătate a epocii halcolit, un strat de locuire cu o grosime de 80-90 de cm. Aici s-au diferențiat două nivele de locuire – culturile – Hamangia IV, Sava IV şi etapele timpurii de la Varna.

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The prehistoric formation near village Draganovo belongs to the category of fortified settlements located on eminence which occurred during the late Stone-Copper Age in some parts of the Balkans and which existed with different duration till the end of the Chalcolithic and even later.[1] Within the territory of Bulgaria ten such aracheological formations are known nowadays; these are Krivodol, Gorna Kremena-Zaminets and Ohoden-Kaleto in Vratsa region;[2] Gnilyane – Okolglava and Glalabovtsi-Peklyuk, Sofia region;[3] Krakra – in Pernik;[4] Dyakovo-Gradishte and Slatino-Chardako – Kyustendil region;[5] Kolarovo-Moussovitsa in the valley of river Strumenitsa, Blagoevgrad region;[6] Sadovets-Golemanovo kale and Telish-Redutite, Pleven region[7] and some other of similar archaeological characteristics, although of different stratigraphy and chronology.[8] Their topography shows settlements on high steep-sloped plateaus dominating over the surrounding terrain, which provided natural protection for the inhabitants. According to region and chronology they can be presented as follows:

[1] What I have in mind here is the formation near Krivodol, Vratsa region, and its chronology. See also **Bogdan Nikolov**. Krivodol, ancient cultures, S., 1984, p. 7-10 (in Bulgarian). Three horizons dated to the second half and to the end of the Chalcolithic and two horizons from the transitional period from the Stone-Copper to the Bronze Age were cleared.

[2] **Bogdan Nikolov**. Prehistoric settlement near village Ohoden, Vratsa district. – In: Arheologia X, 1968, vol. I p. 65-75. **Ibid**: Zaminets – an album, S., 1975.

[3] **Nedelcho Petkov**. Okol glava tell site near village Gnilyane. – In: GNM V, 1931, S., p. 115-145 (in Bulgarian); **Ibid**: Peklyuk – prehistoric settlement near village Galabovtsi, Sofia region. – In: IAI XXVI, 1963, p. 177-194 (in Bulgarian).

[4] **Changova, Y. et al**. Prehistoric settlements in Pernik, vol. I, 1981, p.11-51 (in Bulgarian).

[5] **Stefan Cochadziev**. Ausgrabungen an der prahistorischen Siedlung beim Dorf Djakovo, Kreis Kjustendil. – In: Stidia Praehistorica, 7, Sofia, 1984, S. 64-80; **Idem**: Fruhaneolitische Keramik aus der Prahistorischen Siedlung bei Slatino, Bezirk Kjustendil. – In: Studia Praehistorica, 8, Sofia, 1986, S. 185-202.

[6] **Lilyana Pernicheva**. Drill investigations of the prehistoric settlement near Kollarovo village, Blagoevgrad district in 1980 (in Bulgarian). – In: Archaeological discoveries and excavations in 1980., S., 1981 XXVI, p. 27-29. **Idem**: Researches on the Chalcolithic along the mid-Struma river (in Russian). – In: Studia Praehistorica 11-12, Sofia, 1992, p. 221-235.

[7] **Stefan Alexandrov**. Cultural characteristics of the Orlya-Sadovets complex (in Rissian). – In: Studia Praehistorica 11-12, Sofia, 1992, pp. 358-361; **Ventsislav Gergov**. Copper finds from the prehistoric settlement in Redoutite location near village Telish, Pleven district (in Bulgarian). – In: Arheologia XXIX, 1987, vol. 4, p. 44-54; **Idem**: Prehistoric stellement Telish-Redoute (in Russian). – In: Studia Praehistorica 11-12, Sofia, 1992, p. 347-357; **Ibidem**: Clay altar from the prehistoric settlement in Telish, Pleven region (in Bulgarian). – In: Communications of the Museums in North-Western Bulgaria, vol. 18, 1992, pp. 29-31.

[8] **Henrieta Todorova**. Settlement structure during the Stone-Copper Age in Bulgaria (in Bulgarian), S., 1986, p. 42-89.

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Table 1: Stratigraphy and chronology of fortified Late Chalcolithic settlements on high plateaus in Bulgaria

FORMATION	STRATIGRAPHY	CHRONOLOGY
Krivodol, Vratsa region	Horizon depth 2.80 m. Five horizons	Late Chalcolithic – KSB[9] II-III and transition to the Bronze Age.
Zaminets, Gorna Kremena, Vratsa region	Horizon depth 0.80 m. Three horizons.	Late Chalcolithic – KSB III till the end of the period.
Kaleto, Ohoden, Vratsa region	Horizon depth 0.40 m. One horizon.	Late Chalcolithic – KSB II.
Okol glava, Gnilyane, Sofia region.	Multy-layered settlement. Horizons not clear.	Mid- and Late Chalcolithic. Import – culture Vincha C.
Peklyuk, Galabovtsy, Sofia region	Disturbed layer. Probably two horizons according to typology	Late Chalcolithic – KSB II-III.
Krakra fortress, Pernik.	Disturbed cultural layer. No stratigraphy.	Second stage of culture Gradeshnitsa. Early and Late Chalcolithic.
Gradishte, Dyakovo, Kyustendil region.	Disturbed cultural layer. Two horizons – remains from houses.	Late Chalcolithic – KSB I.
Chardako, Slatino, Kyustendil region.	Horizon depth 2.05 m. Four horizons.	Early Chalcolithic, culture Dikilitash-Slatino.
Moussovitsa, Kolarovo, Blagoevgrad region.	Horizon depth 0.70 m. Horizons not clear.	Late Chalcolithic – KSB III and Early Bronze Age.
Golemanovo Kale, Sadovets, Pleven region	Disturbed cultural layer, Horizons not clear.	Late Chalcolithic – KSB IV; bronze and Orlya-Sadovets.
Redoutite, Telish, Pleven region.	Horizon depth 1.50 m. Three horizons.	Late Chalcolithic – KSB III – IV; transitional period – Galatin.

This table does not exhaust all the data. There are other fortified sites on high plateaus from the Stone-Copper Age discovered in different parts of Bulgaria, as well as abroad. It is worth mentioning the late Chalcolithic settlement on an eminence at the bank of Chatalka Dam in Stara Zagora region. The archaeological material from this site (unfortunately unpublished) has close parallels from the materials found in the eminence settlements in West and North-west Bulgaria. Temporally, this material follows the block Codjadermen–Goumelnitsa–Karanovo

[9] KSB = Krivodol-Salcutsa-Bubani culture.

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VI (KGK VI). There is also the tell site Chatalka, from which artifacts were dated to the culture Karanovo V – Maritsa and the cultural block KGK VI.[10] Excavations were also done at the eminence Tepeto near Krivodol;[11] and significant data is provided by the settlements located on eminences near Makresh, Vidin region, Kroushovitsa,[12] Galatin[13] and Sofronievo, Vratsa region – terrain observations and drill excavations of Bogdan Nikolov in north-eastern Bulgaria.[14] In order to illustrate the archaeological context of these sites, the settlements of similar type in Salcutsa, South Romania[15] and on the eminence Bubani Hum near the modern town of Nish in East Serbia[16] should be mentioned as well.

The above shows that at the end of the Stone-Copper Age the fortified eminence settlements were present in different parts of the Balkan peninsular. The problem with the cause for this phenomenon should be sought in other studies. One thing is certain: a global event made the people in South-east Europe to build their settlements on unusual places during the Late Stone-Copper Age and especially at its end. The landscape and topographic peculiarities of these places were attractive for the ancient populations mostly for their relief standing above the surrounding locality, even if some (otherwise highly valued by the ancient people) natural resources and conveniences were absent.[17] It is impossible to say what exactly happened. It is not possible to say if there is only one answer to this question. There different hypotheses (mostly speculative and some even frivolous) ranging from inter-tribal conflicts, economic or ecological troubles[18] to attempts at identifying the prehistoric communities on the basis of later names, toponyms, biblical manuscripts and legends.[19]

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[10] Investigations of **Mincho Dimitrov** from Regional Museum of History – Stara Zagora. See also Jungsteizeit in Bulgarien (Neolithikum und Aneolithikum), Sofia, 1981, S. 111, 127 B; 112, 128a, 113, 129a, 116, 133, 119, 136B, 133, 151a.

[11] **Vasil Mikov**. Prehistoric settlement near Krivodol, Vratsa region (in Bulgarian). – In: Excavations and investigations I, S., 1948, p. 26-62.

[12] **Georgi Iliev Georgiev**. Die Aneolithische Kultur in Sudbulgarien im Lichte der Ausgrabungen vom tell Azmak bei Stara Zagora. – In: Studijne Zvesti 17, Nitra, 1969, S. 154, abb.12.

[13] **Bogdan Nikolov**. Prefistoric settlements in Vratsa region (in Bulgarian). – In: Arheologia IV, 1962, vol. 1, p. 69-71.

[14] **Bogdan Nikolov**. Sophronievo, Vratsa region, 1971. **Idem**: Periodization of the Neolithic cultures in North Bulgaria from Yantra to Timok (in Bulgarian). – In: Communications of the museums in north-western Bulgaria, vol. 18, 1992, p. 11-28.

[15] **Dumitru Berciu**. Contributii la problemale neoliticului in Romania in lumina noilor cercetari, Bucuresti, 1961, p. 120-298.

[16] **Milutin Garasanin**. Neolithicum und Bronzezeit in Serbien und Makedonien, Uberblick uber den Stand der Forschung 1958. – In: BerRGK 39, 1958, S. 1-130.

[17] **David and Ruth Whitehouse**. Archaeological Atlas of the World. Thames and Hudson, London, 1975, p. 136-137 and 157.

[18] **Henrieta Todorova**. The Stone-Copper Age in Bulgaria (in Bulgarian), S., 1986, p. 221-227.

[19] **Vladimir Tsonev**. The secrets of humankind and the Bulgarian people (in Bulgarian). – In: Anthology, vol. 3, S., 2008, p. 7-188.

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The settlement discovered in the locality Dolapkulak is also fortified and is situated on a high plateau, 5 km to the south of the modern village Draganovo (Table 2). The site was investigated through drilling by Alexander Bonev and Rossen Boshnakov in 1975 in relation to the "History of Dobroudja" project consecutively published in four volumes. The first volume was published in 1984 and the results from the Draganovo-Dolapkulak settlement were presented there briefly.[20]

The place stands above the surrounding terrain in the form of an even plateau with north-south orientation. From the east and south it is naturally protected with steep slopes. It is accessible only from the north where the settlement was fortified with a ditch and a rampart, now evident in the de-leveling of 2.00 – 2.50 m from the bottom of the ditch to the upper rampart. The built-up area is 90 m to the north-south and 50 m to the east-west, or a total of 4 500 m^2. In 1975 Bonev and Boshnakov made two perpendicular drillings with orientation north-south and east-west, respectively. Both were 1.50 m wide, the length of drilling 1 was 20 m, and the length of drilling 2 – 12 m. They helped to establish the stratigraphy and the relative chronology of the settlement, which encompassed the Stone-Copper, Late Bronze and Early Iron Ages. At depth 60 cm a covering from small stones forming a kind of pavement was cleared in the first drilling, as well as a rectangular construction of large stones with the following size: length 2 m, width 1.50 m and height of the walls 0.35 m. This construction was located 4 m from the south end of the drilling. Similar pavement was found in drilling 2 as well, at depth 1.10 m; 2 m from its east end a low wall of medium-sized crumbled stones was cleared, its length was 2.50 m, and its height – 0.30 m from the surface of the terrain. The researchers referred the stone constructions in drilling 1 to the first building horizon, and the constructions in drilling 2 – to the second building horizon.[21] Two chronological periods of the settlement were determined:

1. Middle and beginning of the Late Bronze Age: a cultural layer 70-80 cm thick. Various artifacts were discovered: stone and bone tools and weapons, sherds from vessels. The ceramics included high conical hollow stems of vessels decorated with stamped geometrical ornaments: incised lines and bands of small rectangles, S-shaped patterns, lines of incised triangles, decoration through removal of the background, flutings, etc. Several artifacts are of special interest:

The knee from a big sitting anthropomorphic clay figure or a large vessel. Such artifacts are known from the distribution zone of the Tisza and Herpaly cultures in Hungary.[22] Similar finds were excavated in the lower horizons of Durankulak tell site (Figure 2, 1-2);[23]

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[20] **Henrieta Todorova**. Dobroudja during the Prehistoric Age (in Bulgarian). – In: History of Dobroudja, vol. 1, S., 1984, p. 40-55.

[21] Field book of the 1975 excavations of Al. Bonev and R. Boshnakov.

[22] **Nandor Kalicz, Pal Raczky**. The Late Neolithic of the Tisza region: A survey of recent archaeological researche. – In: The Late Neolithic of the Tisza region, Budapest-Szolnok, 1987, p. 11-30; **Ibidem**: A settlement of the Herplay culture, p. 105-125, Fig. 7-10.

[23] Excavations of **Henrieta Todorova** and **Todor Dimov**. The results will be published in the 4th volume of the "Durankulak" series.

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Ceramic lid in the form of swine head with relief and geometric ornamentation consisting of rows of incised triangles, lines and patterns through removal of the background (Figure 3, 1). This find has parallels in the zoomorphic figurines from Rousse tell site, where the swine figurines amount to 11.9 % from all zoomorphic finds (Figure 3.2);[24]

Pieces from a round clay mould for making of ceramic pots in the shape of a frustum of a cone. It was strongly burnt, with unevenly baked interior. Similar artifacts are known from different sites in Bulgaria – tell sites in Rousse,[25] Karanovo,[26] etc. They are representative of the technology for ceramic production during the Stone-Copper Age;[27]

A large number of back parts and blades of battle axes made from massive deer antlers (Figure 5). Destructions from surface houses with plinth clay and pillar construction were cleared as well as stones assembled without any structural connection between them.

2. Late Bronze Age and Early Iron Age – a 30 cm deep layer. After discontinuation of the settlement on the plateau at mid-Late Chalcolithic, the place was re-settled at the end of the Bronze Age, the second half of 13^{th} – 12^{th} century B.C. A small number of ceramic sherds were found. Very typical was a piece from the upper half of a vessel in the form of frustum of a cone and semi-spherical body. The piece had gray-yellowish polished surface and two vertical relief ribs and wide vertical flutings between them. Pottery with similar ornaments is well known to the north of Romania, in the distribution area of **Pechica** culture.[28] This horizon from Draganovo-Dolapkulak corresponds chronologically to the settlement from the Late Bronze Age and the Early Iron Age on the south bank of the Big Island in Durankulak lake, cultures **Koslogeni-Sabatinovka**[29] and **Sihlianu-Prebabadag**, and probably a little later.[30]

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[24] Thanks are due to my colleague **Dimiter Chernakov** from the Rousse Regional Museum of History for the provided photos. Cf. also **Dimiter Chernakov**. Zoomorphic plastic art from Rousse tell site. – In: Communications of RMH-Rousse, 2005, vol. 9, p. 29-30, Table 1, 18-19 and Table 2, 20.

[25] **Georgy Iliev Georgiev and Nikola Angelov**. Excavations of the tell site near Rousse during 1950-1953. – In: Communications of the Archaeological InstituteXXI, S., 1957, p. 123.

[26] **Vasil Mikov**. Technique of pottery production during the prehistoric age in Bulgaria (in Bulgarian). – In: Communications of the Archaeological Institute XXIX, S., 1966, p. 180-181, Table 12.

[27] **Han Van Khan**. Contribution to the technology of ceramic production during the Chalcolithic in Bulgaria from the perspective of experiment (in Bulgarian). – In: Archaeology XXI, 1979, vol. 2, p.37-41; **Ibidem**: Technology of the Chalcolithic ceramic production in North-eastern Bulgaria: raw materials and moulding (in Bulgarian). – In: Archaeology XXI, 1979, vol. 4, p. 1-12.

[28] **Ion Miclea si Radu Florescu**. Preistoria Daciei. Editura meridiane, Bucuresti, 1980, Fig. 368 si p. 105-106.

[29] **Henrieta Todorova, Todor Dimov**. Late Brone Age settlement on the Big Island near Durankulak, Tolbuhin district (in Bulgarian). – In: North-eastern Bulgaria – Ancient and Modern Times, Sofia, 1985, p. 21-25. For more details see **Henrieta Todorova, Todor Dimov**. – In: Durankulak, vol. 3, Sofia (in print).

[30] **Nicolae Hartuchi**. Un nou aspect cultural de la sfirsitul epocii bronzului la Dunarea de Jos. – In: Pontica, 5, 1972, p. 59-74

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The Early Iron Age is comparatively richly represented. It is characterized with sherds from large vessels worked manually. They have tongue-shaped handles and wide bow-like fluting decoration and belong to the so-called "knob" ceramics of Babadag culture. The pots have glossy gray-black polished surface and are decorated with knobs, wide flutings, relief and stamped elements. There are sherds from vessels with handles at right angles, bow-like handles and elliptic intersection, or handles at acute angle in their upper part. The artifacts from the early Iron Age found in Draganovo-Dolapkulak can be definitely dated to the beginning of this period in North-eastern Bulgaria, Dobroudja region and the Lower Danubian – culture Babadag I. The results from the drillings of Alexander Bonev and Rossen Boushnakov had already several publications.[31]

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In 1993 new excavation works were undertaken in the Draganovo-Dolapkulak settlement under the supervision of Todor Dimov and Alexander Bonev. In the north-eastern part of the site, to the south of the fortification rampart, ten 5 x 5 m squares were situated in two parallel rows. They were orientated north-south and encompassed a total area of 250 m^2. The perimeter thus delineated had a size 10 x 25 m and included parts of the drillings previously made by Alexander Bonev and Rossen Boshnakov in 1975 (Table 3):

a) The northern half of drilling 1 lies in squares Г 7.2, Г 7.3, Д 6.1, Д 7.1, Е 6.4. Its southern end was to the west of square Ж 6. Thus its entire length was within the perimeter of the excavations from 1993.
b) The eastern end of drilling 2 was in squares Г 6.3 and Г 7.4.

In the west end of the settlement, to the south of the fortification rampart, another drilling was made, 1.50 m wide and 15.00 m long, designated for convenience "Western drilling" (Table 3). It helped to establish the width of the cultural layer in this part of the settlement – from 1.00 to 1.20 m. Three stratigraphic levels were differentiated in it:

1. Surface humus layer consisting of gray-black soil 25-30 cm thick.[32] Sherds from clay pots were found dating from the beginning of the Early Iron Age (1st millennium B.C.) and the middle of the Stone-Copper age (5th millennium B.C.).
2. Another two building levels (80-90 cm thick) from the first half and the middle of the Stone-Copper age followed. The upper level was thicker

[31] **Todor Dimov**. Archaeological sources of Hamangia culture along the Lower Danubian and the West Black Sea Coast (in Bulgarian) – In: Research Communications of the Union of Bulgarian Scientist – branch Dobrich, vol. 4, No 1, Dobrich, 2002, p. 141-155; **Todor Dimov**. Neolithic and Copper Age sites in the Northeast Balkans (With Special Reference to Hamangia Culture) – In: Early Symbolic Systems for Communication in Southeast Europe, vol. 1, BAR International Series 1139, 2003, p. 459-467.

[32] It should be mentioned that the settlement area has not been cultivated and the observations during 1975 and 1993 reflect the historic reality.

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(55-60 cm), and the lower one consisted of gray-black layer of ashes 20-25 cm thick, comparatively poor in artifacts. This layer lied on the bedrock. In the middle of the drilling (in its northern profile) a clear vertical digging was identified; it was 60-70 cm wide and had an oval-shaped bottom – a part of the substruction of a Chalcolithic house from 1st Chalcolithic horizon. At the bottom of this pit there was a slightly burnt yellow-greenish plaster 3-4 cm thick. The ceramics from the two levels belonged to the first half and the middle of the Stone-Copper Age.

At the west end of the drilling a transverse row of crumbled stones was cleared, probably from a fortification wall. At its east end, at depth 0.60 m, on an area of about 3.50 m^2 a large number of worked and pre-made pieces from deer antlers were found. Their chronology is uncertain, their archaeological context could not be specified, but they are probably related to the bone axes and other antler tools found (Table 4).

The excavations in the wide area of the eastern part of the settlement reached to a depth of 0.40 m, and in some places – 0.60 m from the surface, depending on the terrain displacement. At the center of square B 6 a semi-destroyed clay floor of a round oven was cleared. According to the ceramics found near it, the oven could be dated to the time of the Early Iron Age – culture Babadag I. Not very far from it a "kyatos" type cup was found and sherds from a large plate with stamped ornamentation. The "kyatos" may be considered a late replica of the golden vessels from the Valchi Tran gold treasure. A ceramic sherd with stamped ornamentation was also found and referred to culture Bassarabi (probably import), but this find does not alter the chronology and culture of the site (Figure 6). It seems very probable that the architecture from the Early Iron Age consisted of light surface constructions which are now hardly possible to recover. The troubled times and the uncertainty of life were the probable reasons for the protection of the settlement with a ditch and a rampart from the north (and presumably with a wooden palisade), and with a stone fortification wall. Remains from it were recovered at the end of the "Western" drilling (Table 4).

In squares Γ6 and Γ 7 a 4.20 x 5.60 m assemblage of lime slabstones, red burnt clay plaster and Chalcolithic ceramic sherds were cleared. These are probably destructions from the upper part of a burnt house from the first (upper) horizon of the settlement. Remains from such houses were also reported by Bonev and Boshnakov in 1975. Construction details were not preserved, except for a clay-covered oven floor to the north of the stone assemblage.

It is worth mentioning the large amount of pieces from bone axes and other deer antler tools (observed also by Bonev in 1975) and flint artifacts. There were numerous pieces from worked antlers, including ploughs (sokha), diggers and various hafts for complex tools (Figure 7). The stone tools were scanty: mainly palstaves, adzes, grinders, and several sling projectile balls. A large amount of sherds from ceramic lids were collected; they had bi-conical handles in the middle and cylindrical slightly-outsloping periphery. The ceramic ware was decorated with

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stamped horizontal patterns with waving lines, triangles, rhomboids and other ornaments. There were rectangular ceramic stands and fine pots with well polished reddish to dark-brown surface. Some of them had decoration of knobs, shallow flutings and incised lines. The typology of the finds allows referring these two levels of the settlement to the middle of the Stone-Copper Age, to the last stage (Tekirgyol) of culture Hamangia spread in the region of Dobroudja and the Lower Danubian. Scarcer were the sherds from the last stages (the fourth stage Varna) of the culture Sava to the south, and some ornamental and technological elements from the beginning of the Late Chalcolithic culture Varna, as well as the Codgadermen-Gumelnitsa-Karanovo VI complex from the interior of the continent.[33]

During season 1993 three clay biconical ovoids were found; their length was from 5.0 to 6.1 cm, and their diameter 3.0 – 3.6 cm. One of them was burnt and cracked by fire (Figure 8). Two were found in the large sector including squares B 6, 4 and Д 6,1 at depth 0.40 – 0.50 m, and the third was recovered from the "western" drilling at depth 1 m from the surface. Two of the finds belonged stratigraphically to the upper Chalcolithic level and the find from the drilling – to the lower one. Their weights were 35.90 (the ovoid was probably heavier before burning), 40.75 and 33.50 g, respectively. The functional interpretation of such artifacts in literature varies: objects with unclear function (?), cult objects (?), amulets (models of cereal grains related to agricultural rituals),[34] or spherical or ovoid projectiles for slings.[35]

It becomes clear from the publications of different authors that stone and clay projectiles have been found as single finds or in groups in various parts of the prehistoric world, on the territory of the entire Balkan Peninsula, although their presence was not uniform.[36] The authors give various comments on the use of the stone and clay sling projectiles during the prehistoric age. Attention is paid to their usage as "shepherd's aids" to control stray animals[37] during grazing, for hunting, and later – for warfare. N. Vitiropulos notes that there is no evidence in Greece for

[33] **Henrieta Todorova**. The Stone-Copper Age in Bulgaria (in Bulgarian), S., 1986, p. 96-132.

[34] Such interpretation is not final. Cf: **Chris Harrison's** site www.slinging.org. The speculations there are rather free.

[35] **Raphail Popov**. Kodga-Dermen tell site near Shoumen (in Bulgarian). – In: IBAD VI, 1916-1918, S., 1919, p. 142 and the figure on page 143; **Stefan Chohadgiev**.Vaksevo. Prehistoric settlements (in Bulgarian). Veliko Tarnovo, 2001, p. 31. **Ibid**: Neolithic and Chalcolithic cultures along river Strouma (in Bulgarian). Veliko Tarnovo, 2007, p. 85.

[36] **Bogdan Nikolov**. Zaminets. Prehistoric settlement (in Bulgarian), S., 1975, p. 13, Figure 9 and 10. **Ibid**: Gradeshnitsa (in Bulgarian), S., 1974, p. 27; **Manfred Korfmann**. Schleuder und Bogen in Sudwestasien. Von den fruhesten Belegen bis zin Beginn der historischen Stadtsaaten, Bonn, 1972, S. 9-18 und 225; **Nikos Vitiropulos**. Fernwaffen in Sudosteurops. Neolitikum bis fruhe Bronzezeit. – In: Internationale Archaeologie, 4, 1991, S. 51-53; **Childe Perles**. The Early Neolithic in Greece: the first farming communities in Europe. – In: Cambridge World of Archaeology, 2001, p. 228-231; **Stefan Chohadgiev**, Op. cit.

[37] **Childe Perles**. The Early Neolithic …, p. 231. Oral evidence is provided for the modern usage of such projectile balls in the near east and North Africa, and an assumption is made that the clay projectiles were a more efficient and precise weapon.

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the use of such projectile ball in warfare "in spite of the increased number of fortified settlements" and therefore interprets them as hunting weapons. In my opinion this is a convincing interpretation, at least with regard to some small and medium-sized game.

Finally, a few words may be said about sling as a military weapon. Chris Harrison defines it as "mankind's first true projectile weapon... an excellent, remarkable achievement".[38] In this context Harrison realistically describes the way of using the sling and provides technical details such as: "the movement of the weapon is just an extension of the user's body. The power and accuracy of the weapon is not by technological means, but rather user's skill". The author further notes that the weapon was not supplanted until the 15th century, then adds that "The sling continues to be used in various smaller conflicts and by enthusiasts to this day". The last remark may be further specified that in more recent times this projectile is used primarily in the folk rituals of various ethnographic communities. I myself had the opportunity to observe in the middle of the 20th century such usage of slings called "firing" during the spring folk festival Sirni Zagovezni (beginning of March) in the region of South-west Bulgaria (the villages Levunovo and Marikostino), and in North Macedonia. The boys coming of age fired spherical clay projectiles with their slings covered with tinder (which blazed while the ball was in the air) aiming at the roof tops of the houses of their sweethearts.[39] Years later I made myself several slings from hemp fibers and experimented with them. After some exercising I became rather skilful in using this projectile weapon (Figure 9). The cords are held in one hand above the head and the projectile is accelerated by circular movements of the wrist. Then one cord is let loose and a controlled centrifugal firing of the stone or clay projectile is achieved into the aimed direction, with high acuracy, at a distance of 100-150 m. During the Neolithic and Chalcolithic Ages the sling must have been a dangerous weapon in trained hands and must have had wide usage in hunting and other everyday activities.

[38] It consisted of two (connected) strings with a pouch for the projectile balls. Cf. www.slinging.org. and the brief though rather emotional comments there.

[39] For more details on the ritual content of the pre-Easter festivals Sirni and Mesni Zagovezni cf. **Michail Arnaoudov**. Studies on Bulgarian rituals and legends, Sofia, 1972, vol. 2, p. 90-95.

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Table 1: Stratigraphy and relative chronology of the fortified Late Chalcolithic settlements located on eminences in Bulgaria.

FORMATION	STRATIGRAPHY	CHRONOLOGY
Krivodol, Vratsa region	Horizon depth 2.80 m. Five horizons	Late Chalcolithic – KSB[1] II-III and transition to the Bronze Age.
Zaminets, Gorna Kremena, Vratsa region	Horizon depth 0.80 m. Three horizons.	Late Chalcolithic – KSB III till the end of the period.
Kaleto, Ohoden, Vratsa region	Horizon depth 0.40 m. One horizon.	Late Chalcolithic – KSB II.
Okol glava, Gnilyane, Sofia region.	Multy-layered settlement. Horizons not clear.	Mid- and Late Chalcolithic. Import – culture Vincha C.
Peklyuk, Galabovtsy, Sofia region	Disturbed layer. Probably two horizons according to typology	Late Chalcolithic – KSB II-III.
Krakra fortress, Pernik.	Disturbed cultural layer. No stratigraphy.	Second stage of culture Gradeshnitsa. Early and Late Chalcolithic.
Gradishte, Dyakovo, Kyustendil region.	Disturbed cultural layer. Two horizons – remains from houses.	Late Chalcolithic – KSB I.
Chardako, Slatino, Kyustendil region.	Horizon depth 2.05 m. Four horizons.	Early Chalcolithic, culture Dikilitash-Slatino.
Moussovitsa, Kolarovo, Blagoevgrad region.	Horizon depth 0.70 m. Horizons not clear.	Late Chalcolithic – KSB III and Early Bronze Age.
Golemanovo Kale, Sadovets, Pleven region	Disturbed cultural layer, Horizons not clear.	Late Chalcolithic – KSB IV; bronze and Orlya-Sadovets.
Redoutite, Telish, Pleven region.	Horizon depth 1.50 m. Three horizons.	Late Chalcolithic – KSB III – IV; transitional period – Galatin.

Table 2: Topography of Draganovo-Dolapkulak settlement, Dobrich region, Bulgaria.

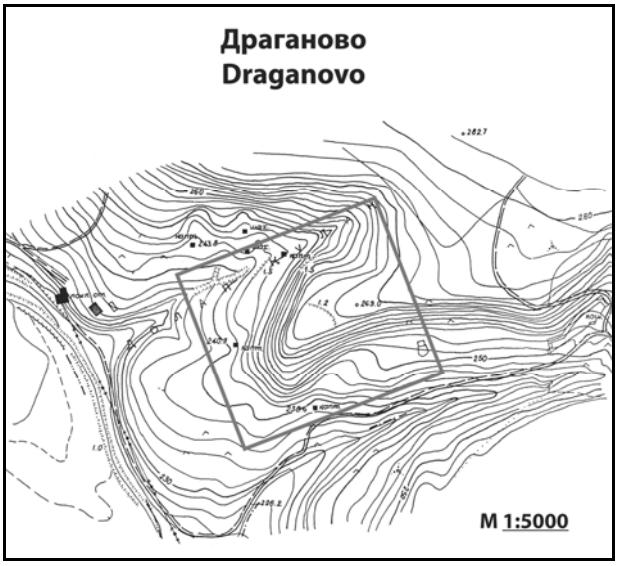

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Table 3: Layout of the excavations in Draganovo-Dolapkulak, season 1993.

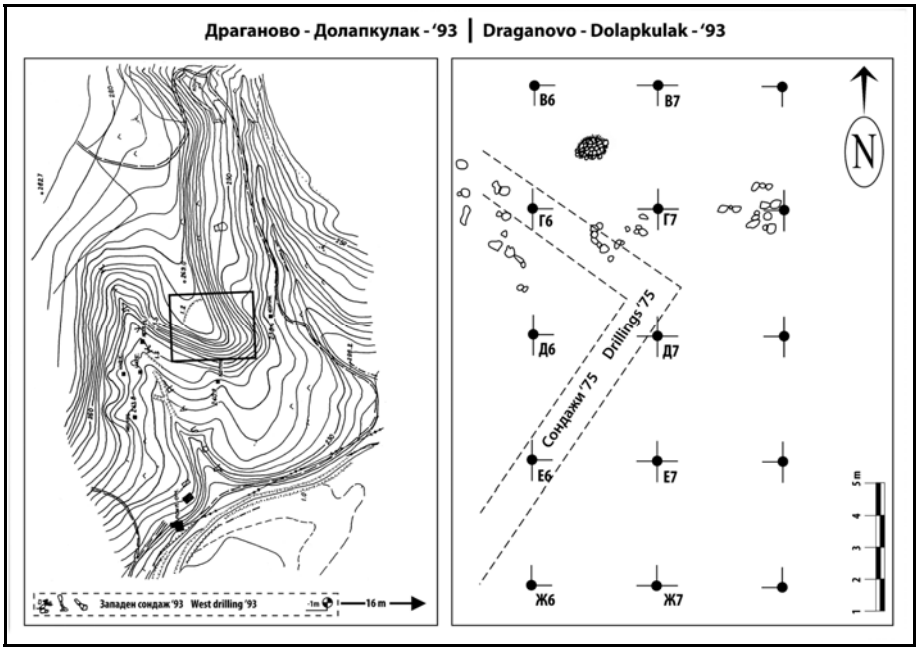

Table 4: Stratigraphic profile of the "Western drilling" in Draganovo-Dolapkulak, season 1993.

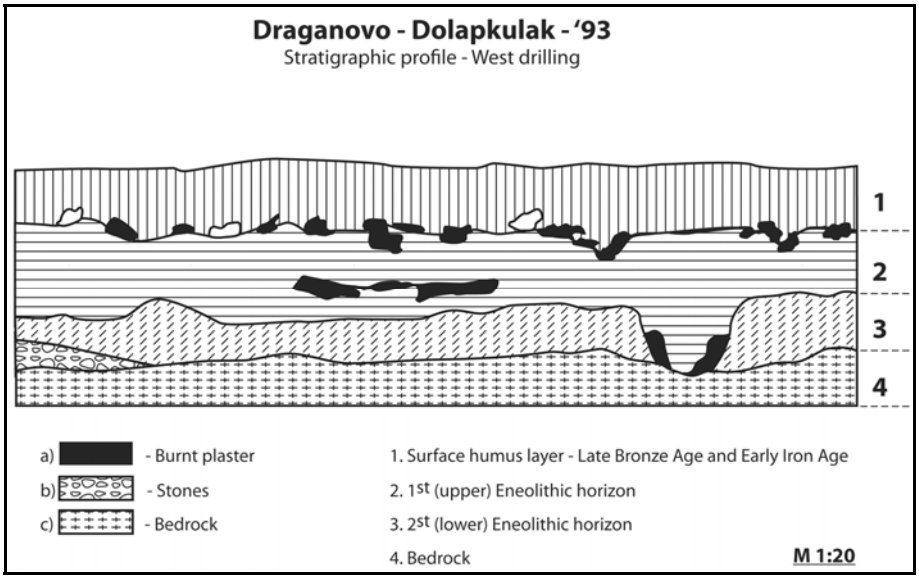

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Fig. 1: Eminence-located settlement Draganovo-Dolapkulak, view from south-east, 2008.

Fig. 2.1: Sherd from anthropomorphic vessel from Draganovo-Dolapkulak, 1975.

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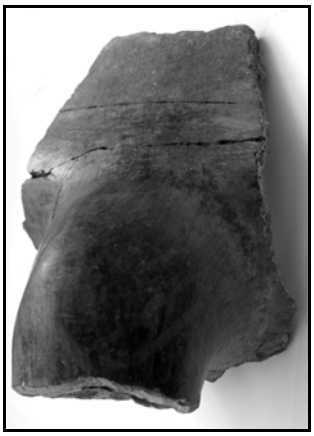

Fig. 2.2: Sherd from anthropomorphic vessel from the tell site Big Island in Durankulak lake, 1998.

Fig. 3.1: Ceramic lid in the form of a swine's head from Draganovo-Dolapkulak, 1975.

Fig. 3.2: Zoomorphic ceramic vessel in the form of a swine's head from Rousse tell site, 2008. Photo kindly provided by Dimiter Chernakov.

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Fig. 4: Clay mould for ceramic vessels from Draganovo-Dolapkulak, 1975.

Fig. 5: Antler axes from Draganovo-Dolapkulak, 1975.

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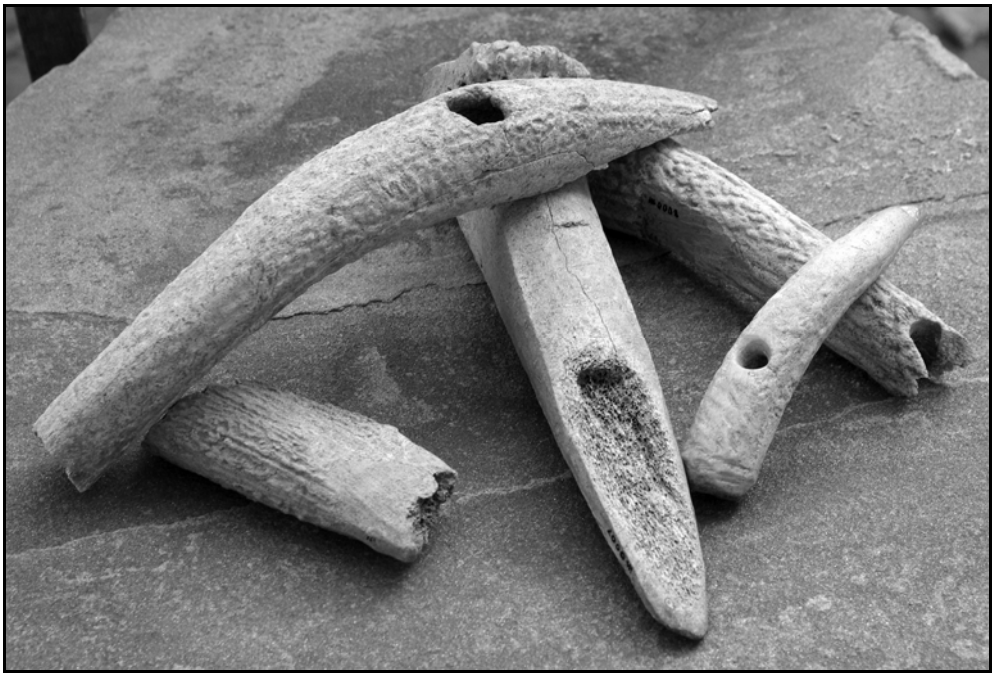

Fig. 6: Ceramic cup with "kyatos" type handle from Draganovo-Dolapkulak, 1993.

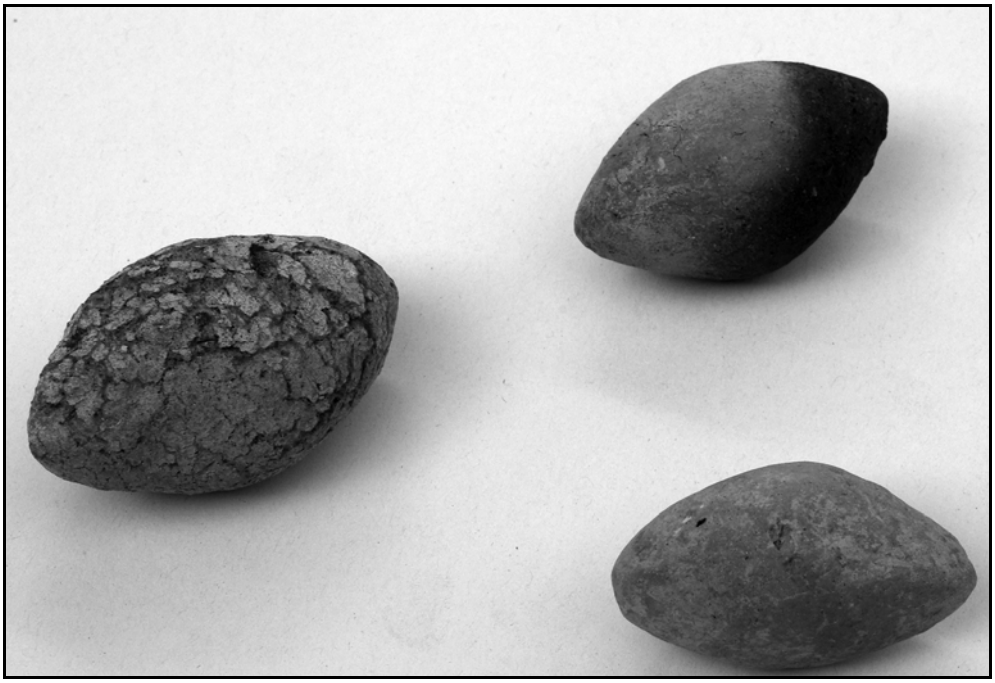

Fig. 7: Agricultural and other antler tools from Draganovo-Dolapkulak, 1993.

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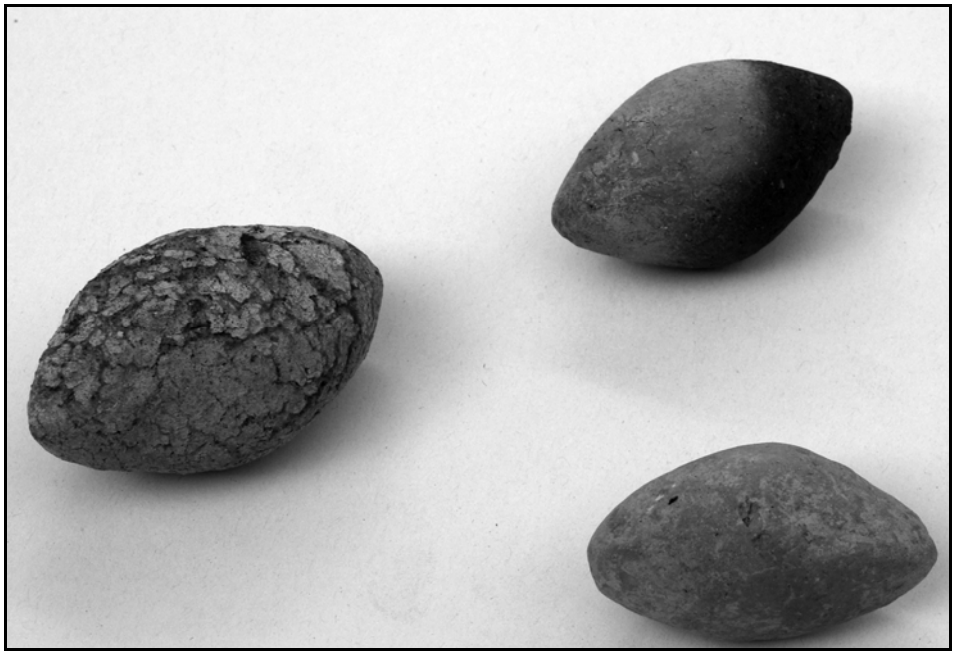

Fig. 8: Clay ovoid projectiles for sling from Draganovo-Dolapkulak, 1993.

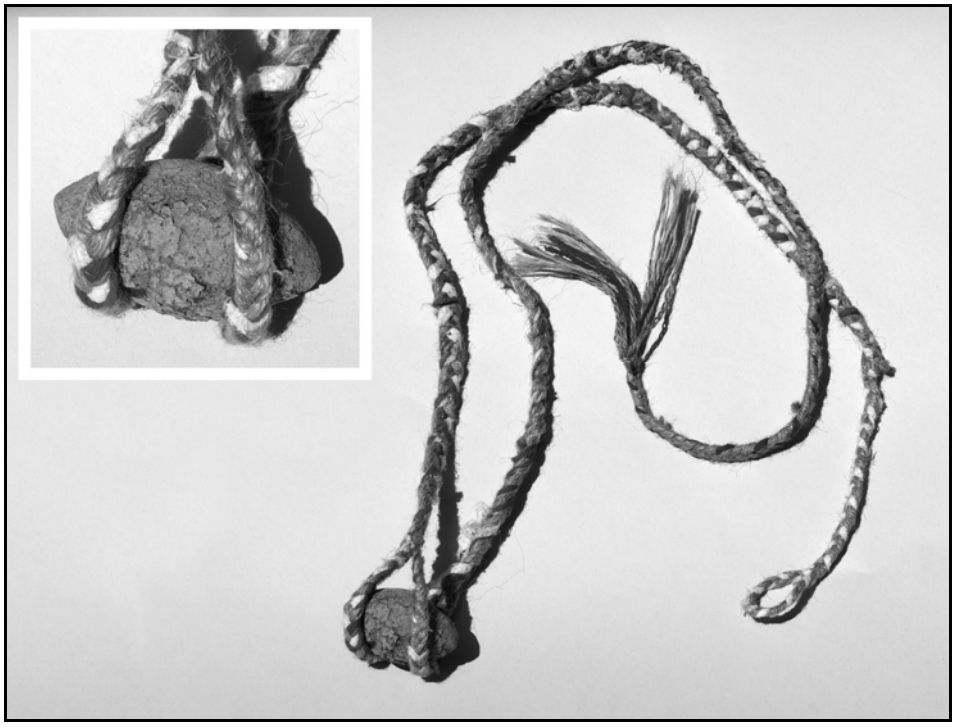

Fig. 9: My reconstruction of a sling for firing stone or clay projectiles.

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